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Folsom District

Economic Profile Supplement

Economic Profile
Folsom Dist.

1606

Reviewed

Fred Wolf
Planning Coordinator

4/13/71
Date

Approved

William D. Kirk
District Manager

1-19-71
Date

Revised

Planning Coordinator

Date

Revised

Planning Coordinator

Date

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1. Introduction and Purposes

Introduction: A physical description of the Folsom District is found in the Management Environment Analysis. This document summarizes current land use, ownership, physical characteristics, and other non resource supply and demand factors necessary for planning decisions. This economic supplement deals with the resource supply and demand factors as well as other economic data which are needed to base sound planning decisions on.

Purpose: The economic supplement provides an analytical framework for determining, at the District level, the capability of Bureau of Land Management (BLM) resources within the District to help meet present and projected needs and thus promote general Bureau objectives. It provides the data necessary for making decisions under the management framework system.

Analytical Areas: The supplement was divided into three different analytical areas; a. district statistical region; b. Mother Lode statistical region and c. Diablo statistical region.

The district statistical region includes 24 counties. They are: Alameda, Alpine, Amador, Calaveras, Contra Costa, El Dorado, Fresno, Madera, Mariposa, Merced, Monterey, Nevada, Placer, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Stanislaus, Sutter, Tuolumne, and Yuba. In most cases,



Administrative Districts of
the State of New York
as of January 1, 1960



statistical data was gathered on a county basis. In a few instances data had to be extrapolated from data sources which covered a wider area.

In analyzing data available, land patterns, use patterns, and workability of the final product, it was decided to depart from the two normal types of subdistrict analytical areas, community impact areas (CIA's) and user influence zones. It was felt that these concepts did not fit the pattern in the Folsom District. Instead, it was decided to divide the District into two subdistrict statistical areas, namely, Mother Lode and Diablo Area.

The data aggregated for these areas would be readily adaptable to study and use on an area manager basis. Each area manager would have only one section where all the information pertinent to his area would be located. This would facilitate his use of the information gathered and enable him to readily apply the information to the decisions which he has to make under the management framework system. Use of the other concepts would have resulted in an overlapping of zones and a hodgepodge of information which would have been all but useless to the decision makers.

The Mother Lode subdistrict statistical area includes the following counties: Yuba, Nevada, Placer, El Dorado, Amador, Calaveras, Tuolumne, and Mariposa. The original idea was to have

the Mother Lode divided into the northern and southern half. After preparing a list of the industries and resources, it was decided that there was very little difference between the two in any economic sense. Therefore, these two were combined into one sub-district statistical area.

The Diablo sub-district analytical area consists of: Fresno, Monterey and San Benito Counties. This area was divided from the remainder of the District because of its diverse economic base, resource production, climatic factors, and population.

INTRODUCTION AND
BACKGROUND

DISTRICT STATISTICAL
REGION



Major Economic
Variables



Population

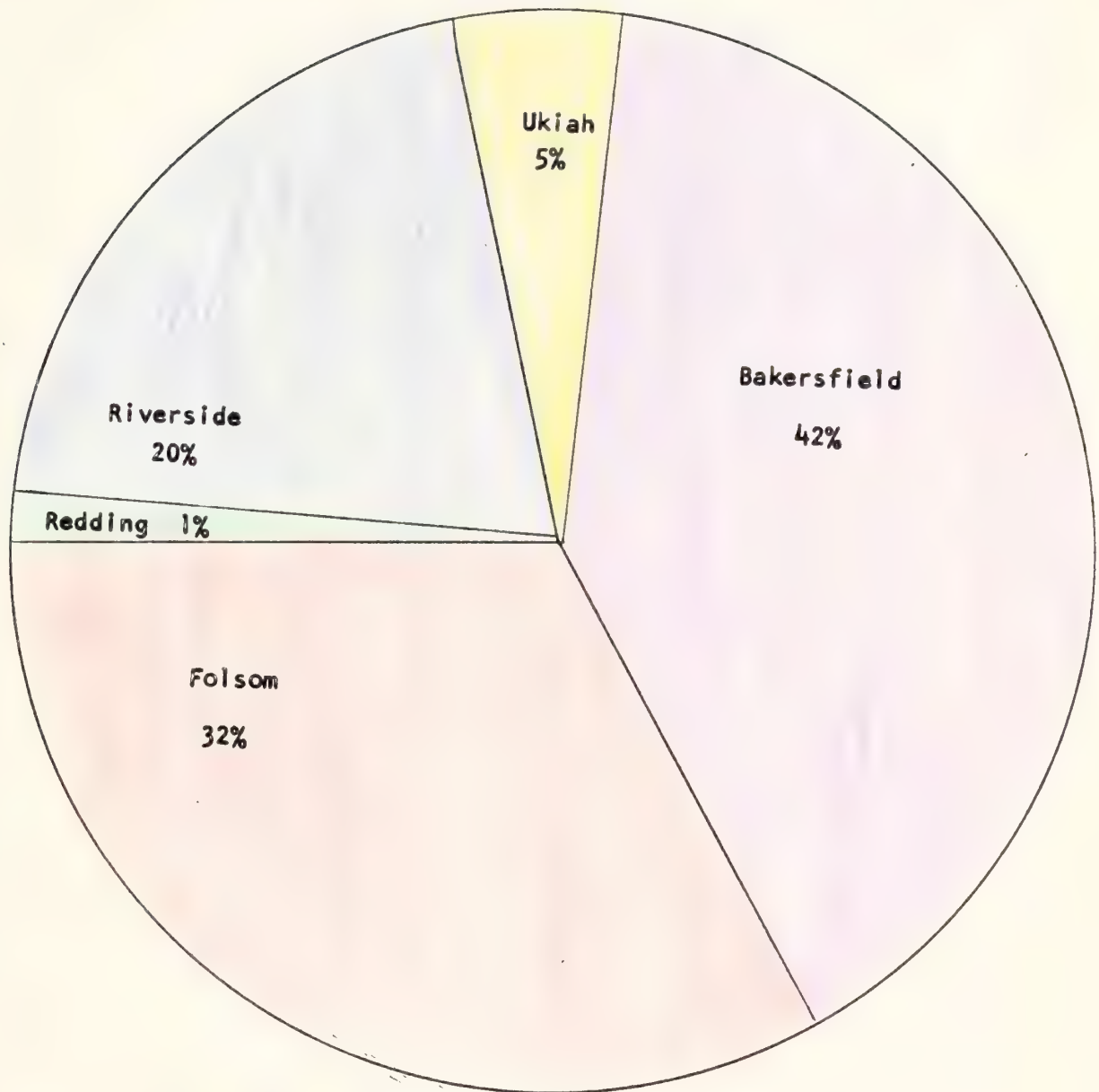


A. Population: The population within the District has increased 87 percent from 1950 to 1970. Based on projected figures the District population as of July 1, 1970, is 32 percent of the total state population (see Illustration 1). Of the Districts in California, this District has the second highest population concentration. This heavy population concentration creates a tremendous impact on all District programs.

Of the total population in the District, 11% of it occurs within the Diablo Area and 4% in the Mother Lode Area (see Illustration 2). The remaining 85% is located in the counties outside of the two defined sub-district areas. This 85% is what creates the pressure on the resources present in the sub-district areas, especially the recreation resource.

The population trend for the district is portrayed in Illustration 3. The largest increase in state population occurred between 1950 and 1960. District population has increased at the same rate each ten year period since 1950. One could almost say, that the total state population increase between 1960 and 1970 occurred in the Folsom District. The projected increase for 1970-1980 shows that the District will have a 30 percent increase and the state as a whole will only have a 20 percent increase.

Districts Population Percent of State Total
For July 1, 1970



Susanville is only .2%

District Population Percentage

July 1, 1970

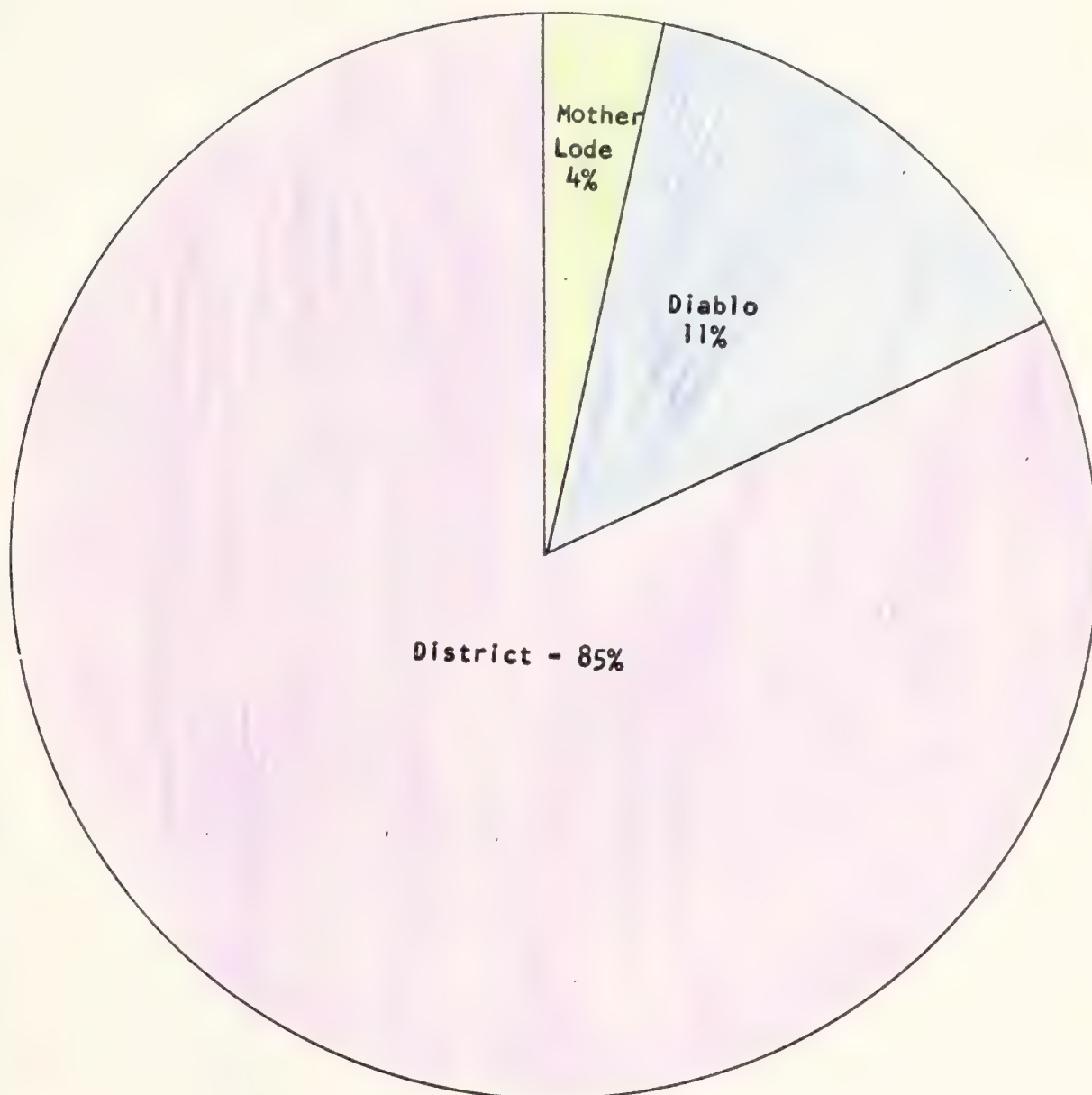






Illustration 3

Population Trend for State, District and Sub-areas
for 1950-60, 60-70, and 70-80

LEGEND: State - 
District - 
Mother Lode - 
Diablo - 

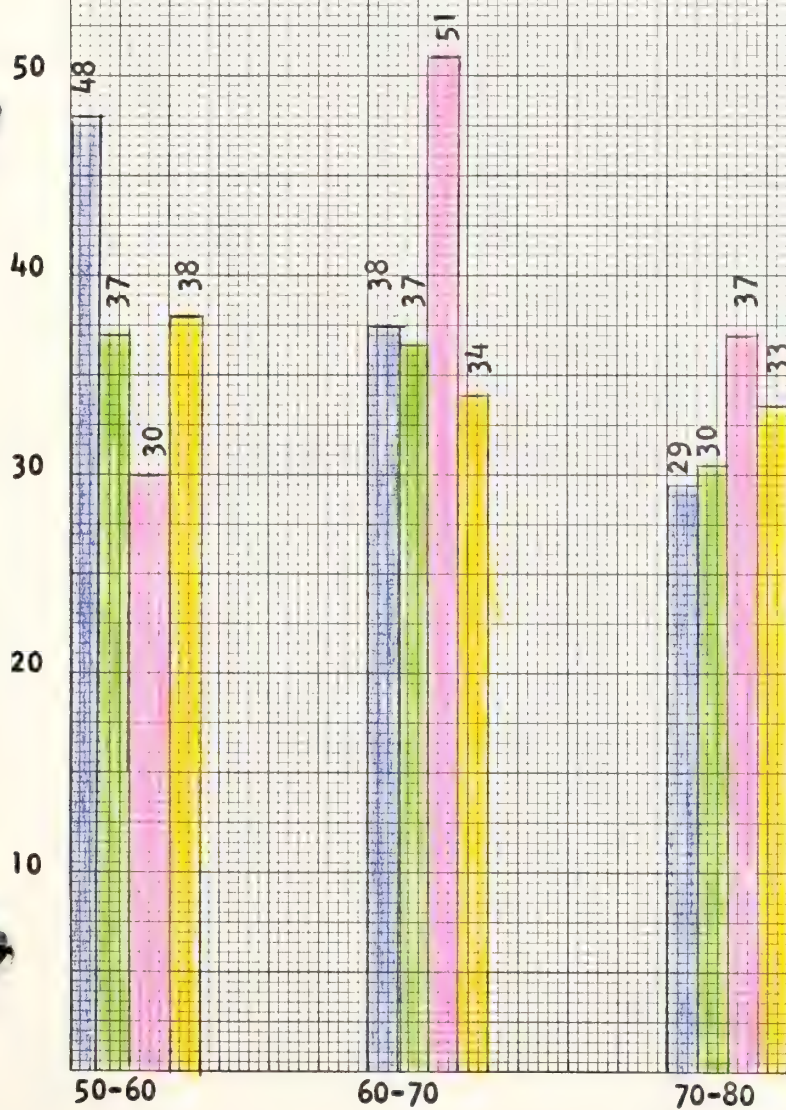


TABLE 1

District Population Data

Area	1950 ¹	1960 ²	1970 ²	1980 ²
State	10,586,223	15,717,204	21,734,000	28,137,000
District	3,706,070	5,066,038	6,944,500	9,044,700
Mother Lode	138,946	180,905	272,600	372,900
Diablo	421,383	579,692	775,700	1,031,500

1. California Statistical Abstract 1966.

2. Population of California Counties - Estimates and Projections 1960-1980, #14, 1965, Calif. State Chamber of Commerce.

TABLE 2

Growth Percentages

Area	50-60	60-70	70-80
State	48	38	29
District	37	37	30
Mother Lode	30	51	37
Diablo	38	34	33

TABLE 3

Population Percentages of District to State and Sub-district Areas to District

Area	1950	1960 - 1980 ¹
District	35	32
Mother Lode	4	4
Diablo	11	11

1 No change in percent from 1960 to 1980

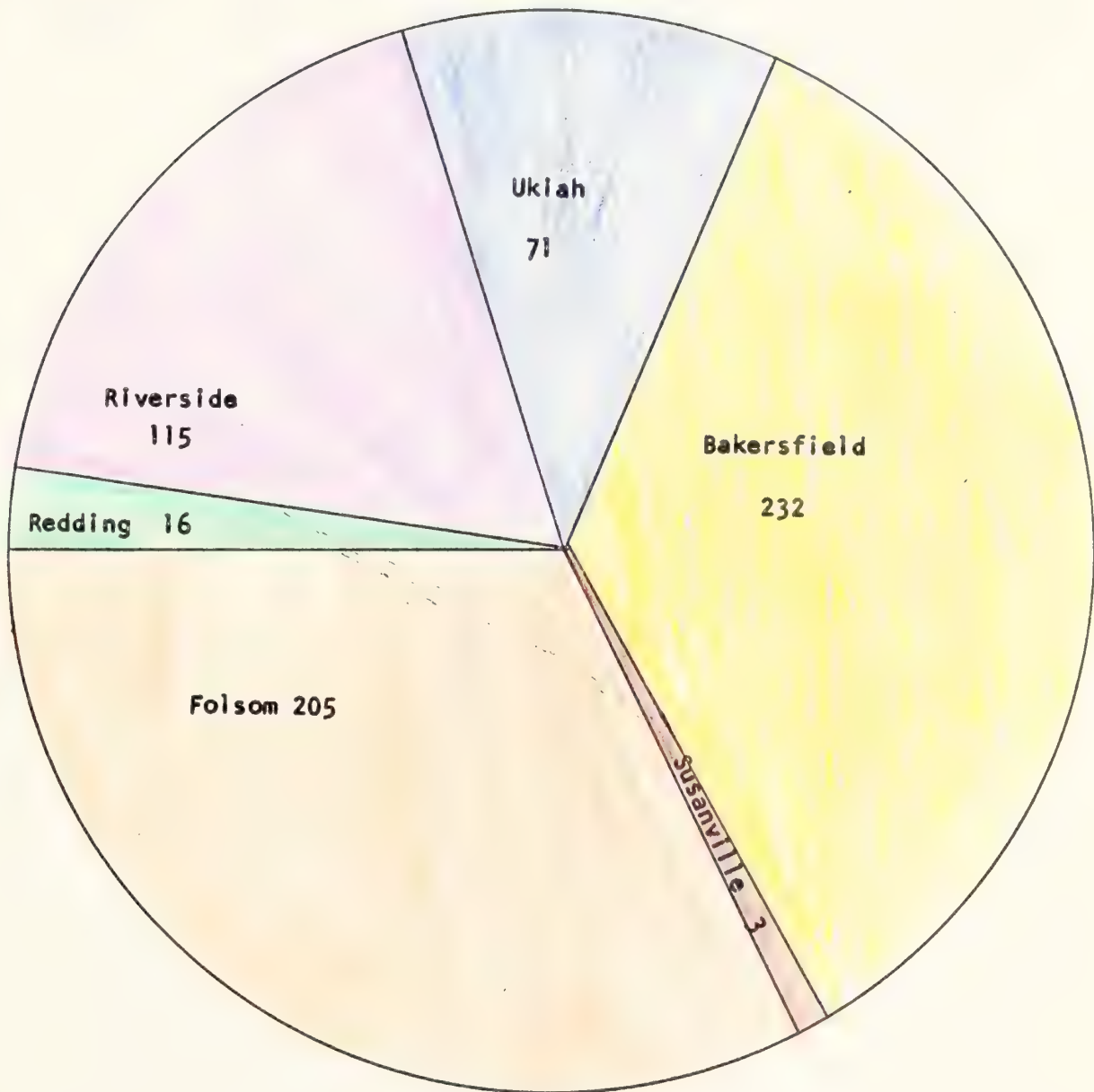
The sub-district areas show a similiar type increase. The Mother Lode increased the fastest from 1960 - 1970. The Diablo area had a rapid period of growth from 1950-1960, but will not increase as fast in 1970-1980. In the next ten years the Mother Lode area population is expected to increase 37% while the District increases only 30%.

If the population projections are correct, the Mother Lode area will experience a population influx which could effect BLM's management programs. The Diablo area will not be far behind in population growth. Both of these areas will be increasing at a faster rate than the District as a whole.

The population density in the Folsom District is 205 people per square mile (Illustration 4). The density, State wide is only 137 people per square mile. Among all the districts in the state, this district has the second highest population density. The only other district with a higher density is Bakersfield with 232.

As of July 1, 1970 (Illustration 5) the density of the Mother Lode Area was 27 and Diablo area was 72 (Table 4). The projected increase to 1980 is 177 state wide. The District density is expected to increase to 267 by 1980. The Diablo Area density is expected to reach 96 by 1980. This is expected to have a real impact on the resources managed by BLM. The density in the Mother Lode will increase to 37, which is not a spectacular increase.

Population Density Per Square Mile by Districts
For July 1, 1970



Population Density Per Square Mile for State, District and Sub-areas

For 1970 and 1980

LEGEND: State - ■
District - ■
Mother Lode - ■
Diablo - ■

260

240

220

200

180

160

140

120

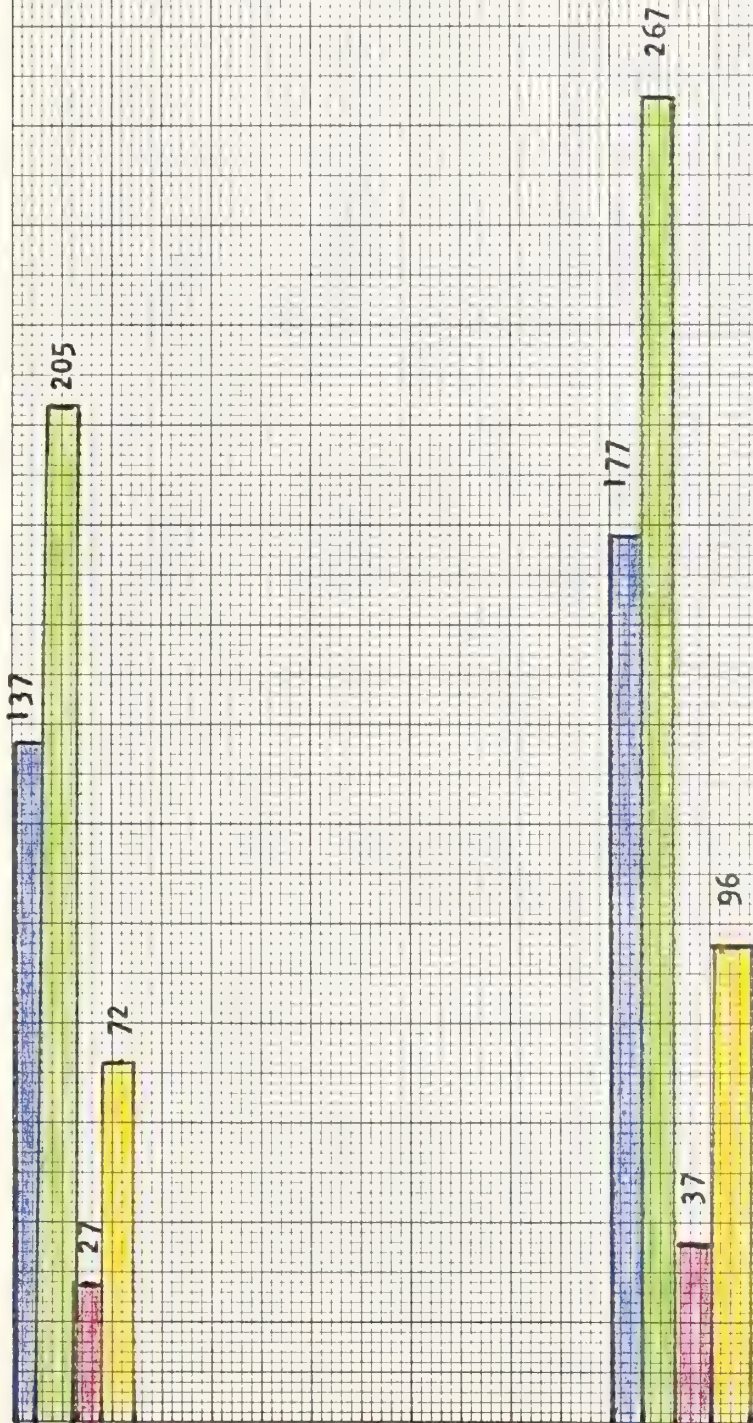
100

80

60

40

20



District - 8 12/3/70

TABLE 4

POPULATION DENSITY FOR SUB-AREAS

7/1/70				7/1/80	
<u>County</u>	<u>Sq Miles</u>	<u>Pop</u>	<u>Density</u>	<u>Pop</u>	<u>Density</u>
(Mother Lode)					
Yuba	637	54,600	86	72,500	114
Nevada	978	25,100	26	28,200	29
Placer	1,424	90,300	63	134,200	94
El Dorado	1,714	55,700	32	85,000	50
Amador	593	12,300	21	14,500	24
Calaveras	1,027	12,300	12	13,600	13
Tuolumne	2,274	17,200	8	19,600	9
Mariposa	<u>1,455</u>	<u>5,100</u>	<u>4</u>	<u>5,300</u>	<u>4</u>
Total	10,102	272,600	27	372,900	37
(Diablo)					
Fresno	5,964	480,900	80	613,500	103
San Benito	1,396	18,000	13	21,400	15
Monterey	<u>3,324</u>	<u>276,800</u>	<u>83</u>	<u>396,600</u>	<u>119</u>
Total	10,684	775,700	72	1,031,500	96





The population distributed by cities and unincorporated area is shown in Illustration 6. The percent of the state's population living in cities is 74 percent. The District percent is 72 percent, quite comparable to the state total. As we would expect, the percent of the population living in cities in the Mother Lode Area is 33 percent (Table 5). On the other hand, the Diablo area has 58% of its population living in cities. This indicates that the people in the Diablo Area are more likely to require public land for their recreation and leisure use than people in the Mother Lode Area.

TABLE 5
POPULATION DISTRIBUTION BY CITIES AND
UNINCORPORATED AREA FOR SUB-AREAS

<u>County</u>	<u>Unincorporated Area</u>	<u>%</u>	<u>City Areas</u>	<u>%</u>
(Mother Lode)				
Amador	5,920	48	6,380	52
Calaveras	10,885	88	1,415	12
El Dorado	31,920	57	23,780	43
Mariposa	5,100	100		
Nevada	18,250	73	6,850	27
Placer	55,620	62	34,680	38
Tuolumne	14,710	86	2,490	14
Yuba	41,220	76	13,380	24
Total	183,625	67	88,975	33
(Diablo)				
Fresno	212,080	44	268,820	56
Monterey	101,310	37	175,490	63
San Benito	9,610	53	8,390	47
Total	323,000	42	452,700	58

Percent Distribution of Population by Cities and Unincorporated Areas

July 1, 1969

LEGEND: State - 
District - 
Mother Lode - 
Diablo - 

80

70

60

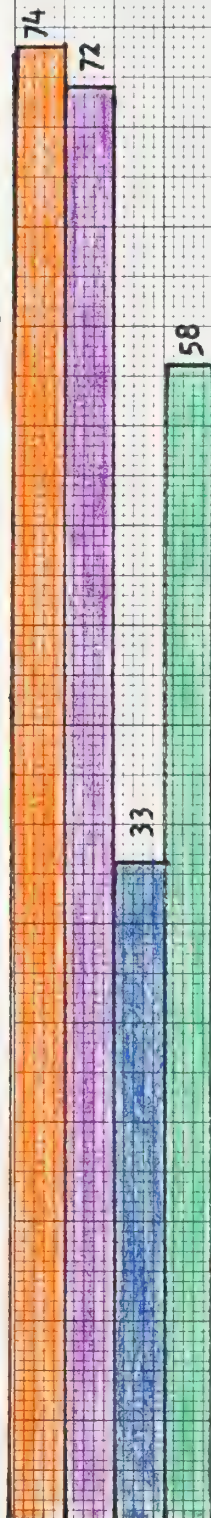
50

40

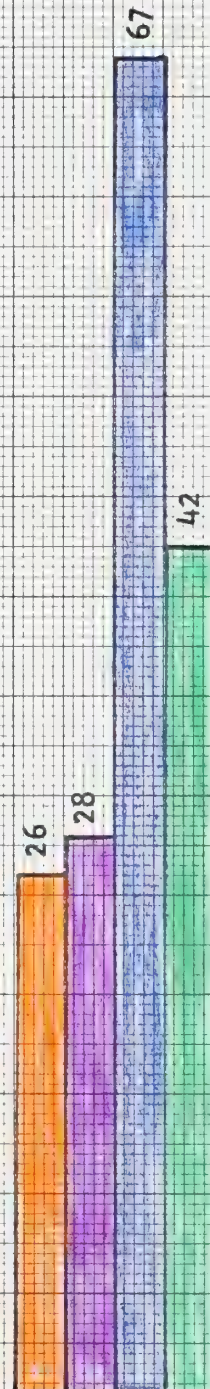
30

20

10



Cities



Unincorporated

District - 11 12/3/70

B. Income: The total district income is thirty-three (33%) percent of the total state income, for the years of 1961 and 1968. During this time period the district's total income increased by 70% compared to 68% for the state. (See Illustration 1) The sub-district area incomes showed approximately the same percentage increase.

In 1968 the average per-capita income for the district was \$4,103. This was a 45% increase over 1961. The state per capita income for 1968 was \$3,915, some 5% less than the district's average. The following table shows the average per-capita income for the state, district, and sub-district areas.

TABLE I





	Average Per Capita Income	
	<u>1961</u>	<u>1968</u>
State	\$2,790	\$3,915
District	\$2,837	\$4,103
Mother Lode	\$2,441	\$2,663
Diablo	\$2,409	\$3,039

Illustration 2 shows the trend in average per-capita income.

In trying to determine what importance each industry is to the total income picture, difficulty in obtaining data was experienced. In some industries, certain counties did not make a report, for fear of disclosing confidential information. An analysis of the available

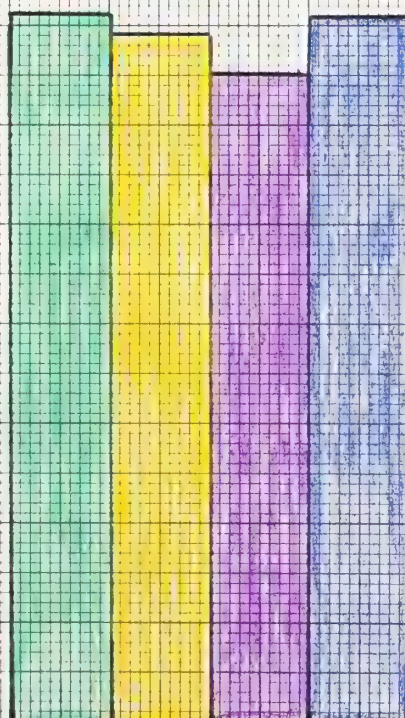
Total Personal Income Trend

1961 - 1968

LEBEND: State - 
District - 
Mother Lode - 
Diablo - 

Percent Increase

70
60
50
40
30
20
10



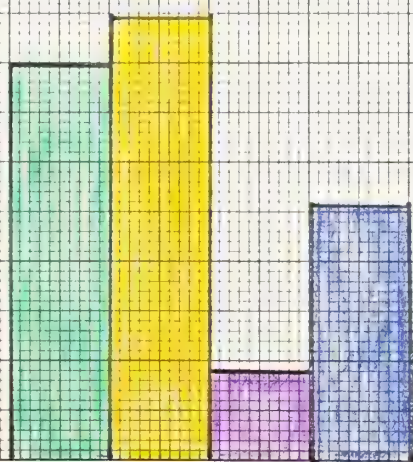
District - 13 12/3/70

Per Capita Income Trend

1961 - 1968

LEGEND: State - █
District - █
Mother Lode - █
Diablo - █

Percent Increase
50
40
30
20
10



data was made and is portrayed in illustrations 3 and 4. The rank of industry by wages produced is shown in Table 2.

TABLE 2
Industry Rank by Wages ^{1/}

Industry	State	Dist.	M.L.	D
Manufacturing	1	1	2	2
Wholesale & Retail Trade	2	2	1	1
Services	3	3	4	4
Trans. - Comm.	4	4	5	5
Contract Const.	5	5	3	6
Finance, Ins. Real Estate	6	6	6	7
Agriculture Forestry	7	7	7	3
Mineral Extraction	8	9	8	8
State, Local Gov't	9	8	9	9

Source: Calif. Employment and Payrolls 1968, Human Relations Agency Report 127 #31 d.

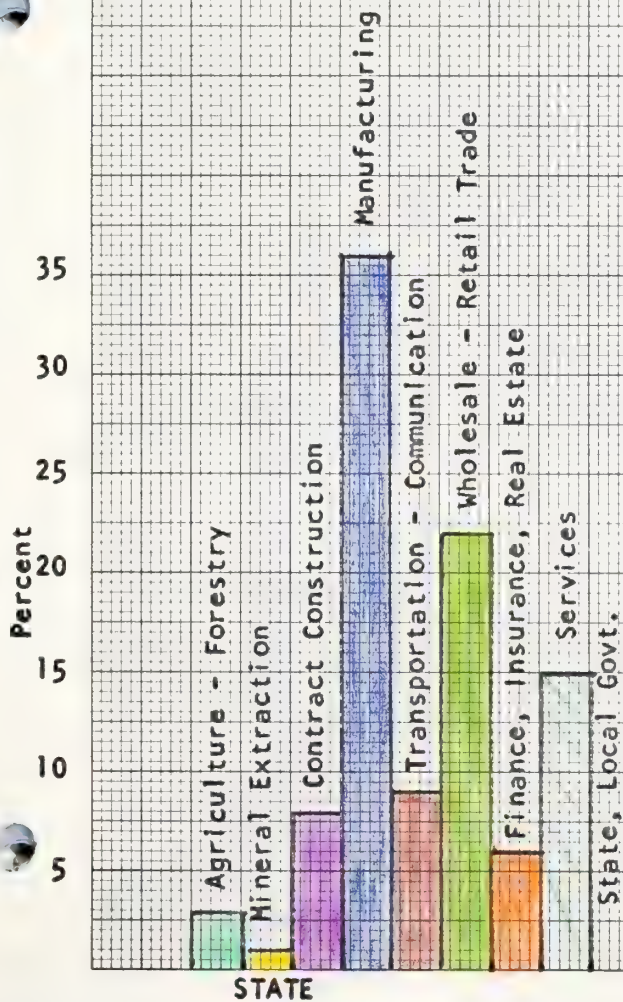
^{1/} Based on percent of total for each industry.

In analyzing the data, it becomes apparent that manufacturing is the number one industry in wages produced for the state as well as

the district. Yet this industry ranks second behind the wholesale and retail trade industry for the sub-district areas. This leads one to draw the conclusion that in the sub-district areas, in all probability, the major economic factor is the recreation and tourism business. The lowest rank industry by wages produced is mineral extraction.

Percent of Total Wages by Industry

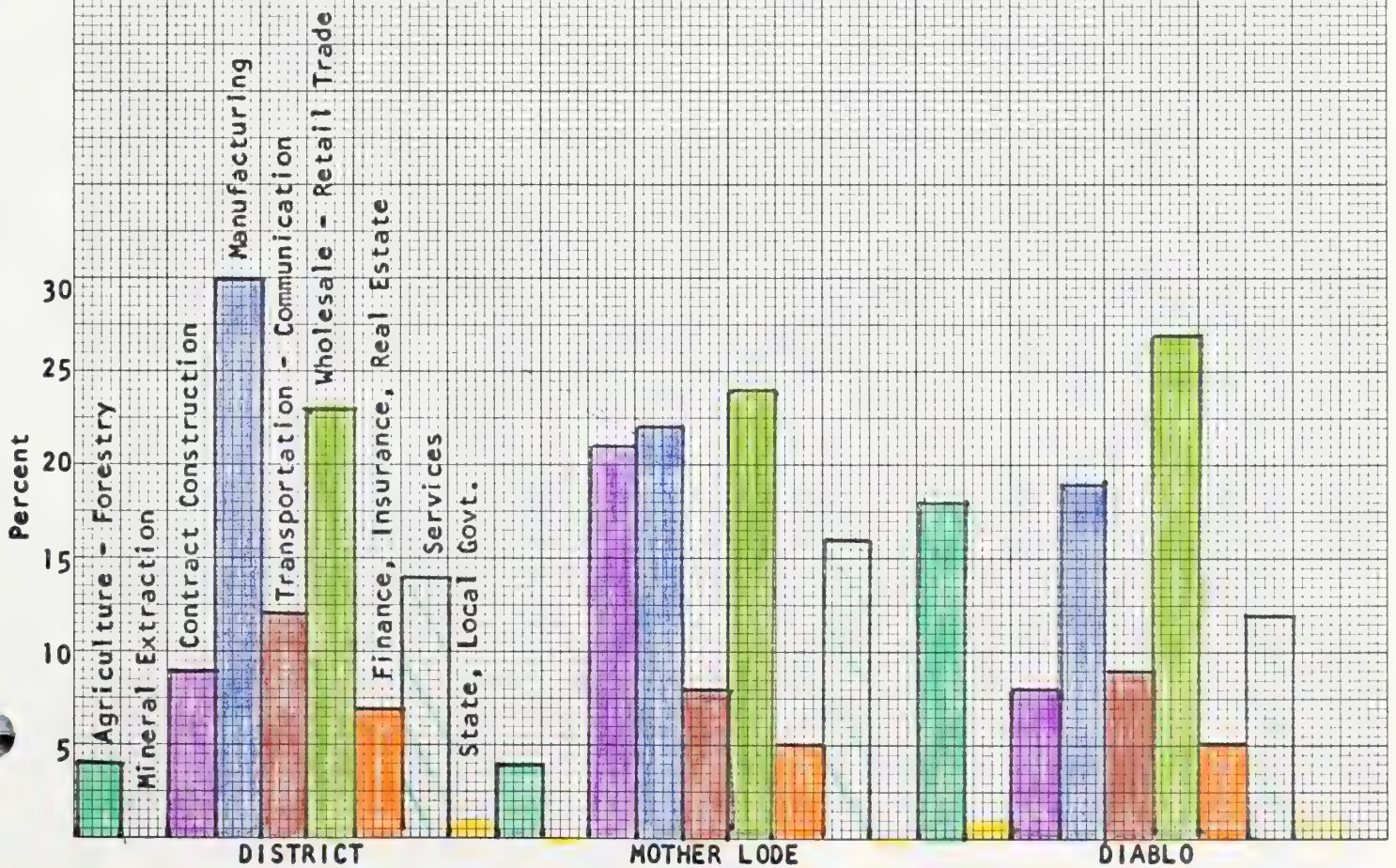
1968



District - 17 12/3/70

Percent of Total Wages by Industry

1968



District - 18 12/3/70

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Employment



C. Employment: Obtaining employment figures by industry was difficult; as was the case with income facts, certain counties do not report employment by industry. Based on the available data, an analysis of the employment picture in the Folsom District was made. Of total employment state-wide, the district employs 32% of the total.

Employment by industry was compared for the district and sub-district areas (Table 1 and Illustrations 1 and 2).

Table 1
Comparison of Employment by Industry ^{1/}

<u>Industry</u>	<u>District</u>	<u>M.L.</u>	<u>D</u>
Agriculture-Forestry	46	1	40
Mineral Extraction	12	5	36
Contract Const.	37	3	7
Manufacturing	26	1	6
Trans.-Comm.	42	1	6
Wholesale & Retail Trade	32	2	10
Finance, Ins. Real Estate	36	1	6
Services	31	3	8
State, Local Govt.	39	1	10

^{1/} Based on percent of total employment in each industry. District is % of state total, and sub-district areas are % of district total.

District-wide, the major industry from the employment view point is wholesale-retail trade with 27% of the total. (Illustration 2) The third highest was the service industry with 17% of the total. This certainly indicates that a substantial part of the district economy is based on the recreation and tourism resource. This same relationship holds true in the Mother Lode subdistrict area as wholesale-retail trade ranks first with 29% and services second with 26%. In the Diablo subdistrict area, first rank is the agriculture-forestry industry with 30%. Closely following this though is the wholesale-retail trade with 26% and services with 14%. This seems to indicate that in the Diablo subdistrict area, the recreation tourism business although second to agriculture, is very important to the total economy and ranks a close second.

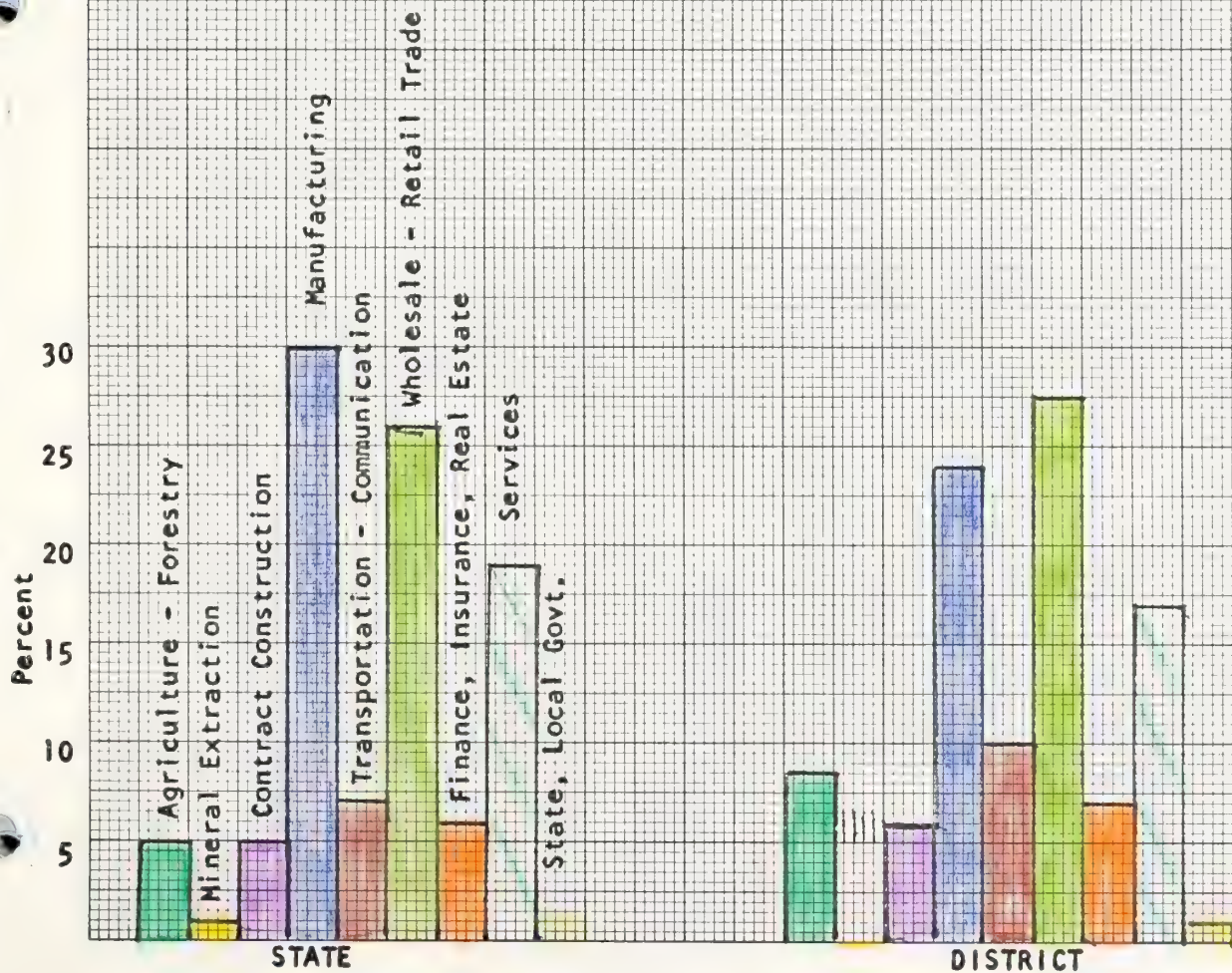
The industry rank by employment for each of the statistical areas is shown in Table 2.

Employment Percent of Total by Industry

1968

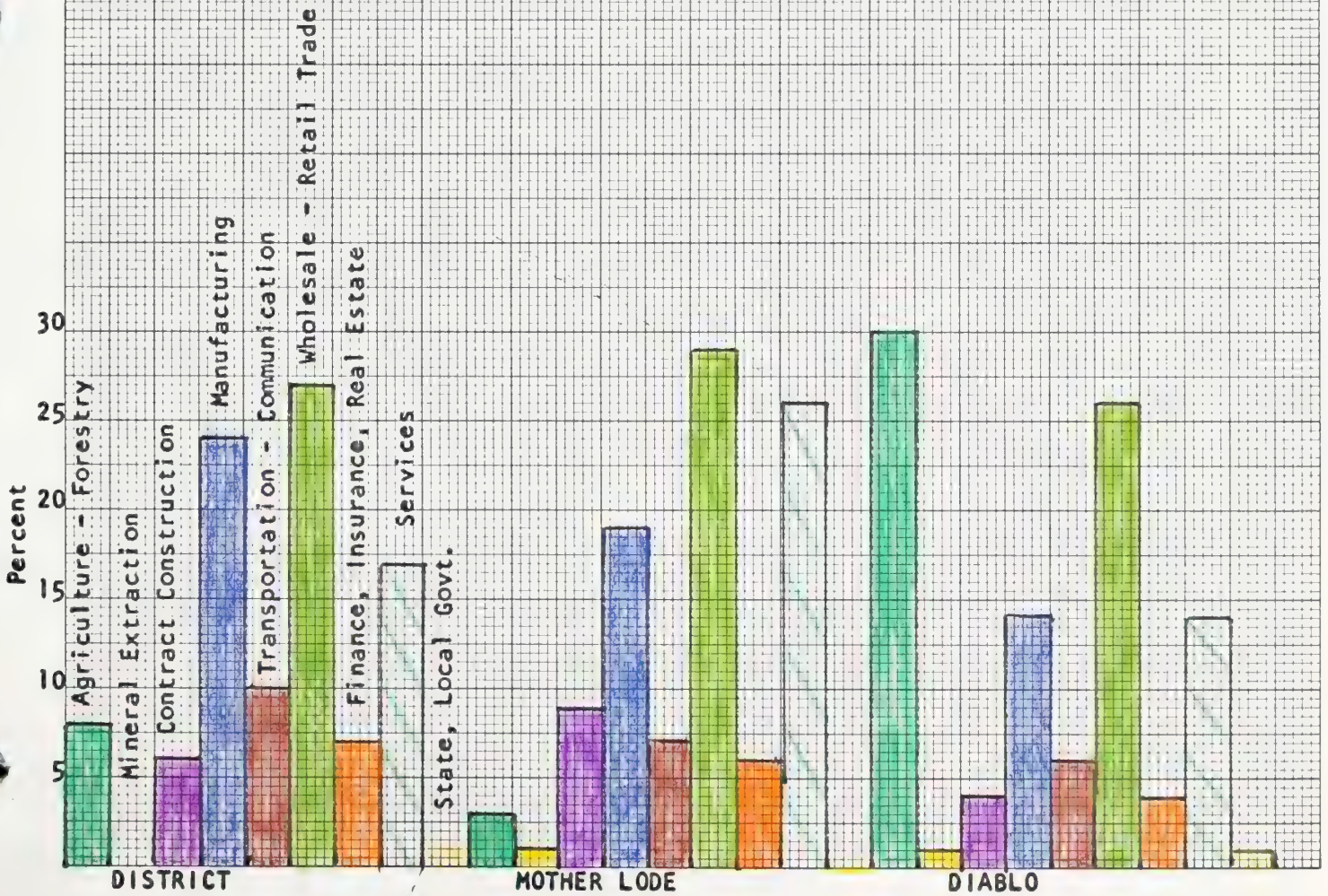
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Employment Percent of Total by Industry

1968



District - 22 12/3/70

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Sectors and Industries



Agriculture



Agriculture: In developing this section data from only 14 counties was used. These are the counties where BLM has land and grazing leases. The mass of data available from other counties would have added to the bulk but would not have added any needed detail.

Agriculture constitutes an important industry in Central California. In the fourteen counties shown in Table 1, about 90,000 people are employed in the agriculture industry. This is approximately nine percent of the total persons employed in these counties. The total numbers of persons employed in livestock production is not available. However, of the 68,000 domestic workers employed in agriculture, 1,600 or 2% are employed in livestock production.

The total value of all farm products sold in 1968 was \$1,319,750,000 dollars. This compared to \$1,143,048,000 dollars in 1964 represents a 15% increase. As would be expected, the valley counties of Fresno, Monterey, Stanislaus, and Merced are the leaders within the district in agricultural production. Agricultural production in the fourteen counties listed in Table 2 represents 29% of the states total.

Livestock and livestock products are second to fruits and nuts in the total revenue produced by major farm commodities as shown in Table 3.

Livestock and livestock products contributes twenty-one percent of the total agricultural production in the area. This compares with twenty-three percent statewide. The value of livestock products sold in the area represents 26% of the state total (Table 4).

TABLE 2
Agricultural Employment

County	<u>1/</u> Population	<u>1/</u> Persons Employed	Persons Employed in Ag. Production <u>2/</u> (Incl'd's Farm Owners)	Hired Domestic Workers Empl'd in <u>2/</u> Agriculture	Empl'd in <u>3/</u> Livestock Prod.
Amador	12,800	3,825	217	47	12
Calaveras	14,100	3,900	409	89	37
Contra Costa	573,700	154,200	2,740	1,400	91
El Dorado	46,500	13,825	740	400	14
Fresno	420,500	171,300	35,460	26,940	424
Madera	45,400	15,650	5,350	4,000	166
Mariposa	6,100	2,475	256	66	35
Merced	108,400	39,075	11,240	6,250	217
Monterey	247,700	80,500	10,880	8,860	142
Nevada	26,900	7,675	337	67	22
Placer	82,600	23,500	1,160	510	41
San Benito	19,100	7,200	2,110	1,630	79
Santa Clara	1,065,000	412,700	7,180	5,240	97
Stanislaus	205,000	80,800	11,360	7,050	190
Tuolumne	<u>21,400</u>	<u>7,400</u>	<u>180</u>	<u>40</u>	<u>11</u>
Total	2,895,800	1,024,030	89,619	67,589	1,578

1/ Department of Finance figures of July 1970.

2/ Department of Human Resources Development Ag. Employment by type of worker, 1970 Report 881M/8

3/ Human Relations Agency, Department of Employment, hired domestic workers in agriculture by county 1969

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TABLE 2
Total Agriculture Production by County and State Ranking

(\$1,000 dollars)

County	Total Value		State Ranking	
	<u>1964</u>	<u>1968</u>	<u>1964</u>	<u>1968</u>
Amador	2,611	5,516	50	46
Calaveras	4,827	5,001	46	47
Contra Costa	29,402	31,303	31	32
El Dorado	6,617	9,038	45	45
Fresno	443,088	462,659	1	1
Madera	81,505	79,796	17	20
Merced	137,303	166,306	11	9
Monterey	153,139	212,733	9	7
Nevada	1,863	2,404	51	51
Placer	18,195	22,586	36	37
San Benito	21,565	32,802	33	31
Santa Clara	70,552	75,068	21	22
Stanislaus	167,878	209,672	8	8
Tuolumne	<u>4,503</u>	<u>4,866</u>	<u>47</u>	<u>48</u>
	1,143,048	1,319,750		

Source: U.S. Department of Agriculture, Bureau of Agri. Stats.
Mariposa County omitted because of lack of data.

TABLE 3

Gross Value of Ag. Production by Major Commodities - 1968
(\$1,000 Dollars)

<u>County</u>	<u>Field Crops</u>	<u>Seed Crops</u>	<u>Vegetable Crops</u>	<u>Fruit and Nut Crops</u>	<u>Nursery and Cut Flowers</u>	<u>Apiary Products</u>	<u>Livestock and Livestock Prod.</u>	<u>Poultry and Poultry Prod.</u>
Amador	1,227 ^{1/}		137	302			3,848	
Calaveras	1,069		16	253	5	1	2,438	679
Contra Costa	4,414	10	8,523	6,556	3,040	23	8,615	122
El Dorado	1,222		13	4,123	384		2,109	1,187
Fresno	134,034	14,026	52,634	169,834	1,012	230	65,888	24,001
Madera	25,277	339	2,507	24,198	271	115	20,756	6,333
Merced	39,729	892	23,121	24,520	1,888	289	54,742	21,125
Monterey	19,258	1,250	137,087	17,100	6,894		28,320	2,824
Nevada	616			209 ^{3/}			725	854
Placer	5,263 ^{2/}			3,820	610	51	7,373	5,469
San Benito	2,383	909	12,140 ^{2/}	7,597			7,049	2,724
Santa Clara	1,433	1,681	15,831	25,907	15,587	8	10,192	4,429
Stanislaus	34,381	801	16,630	50,234	2,957	146	61,623	42,900
Tuolumne	<u>727</u>	<u> </u>	<u> </u>	<u>121</u>	<u> </u>	<u> </u>	<u>2,837</u>	<u>1,164</u>
Total	271,033	19,908	268,639	334,774	32,648	863	276,515	113,811

^{1/} Includes seed crops

^{2/} Includes nursery crops

^{3/} Includes vegetable crops

Source: County Agricultural Commissioner, Annual Crop and Livestock Reports.

Mariposa County omitted because of lack of data.

TABLE 4

Value of Farm Products Sold by County and
Percentage of Livestock Sold to
All Farm Products

County	Value of All Crops Sold <u>1/</u> \$ (1,000's)	Value of All Lvstk. & Lvstk. Prod. Sold \$ (1,000's)	Value of All Farm Prod. Sold \$ (1,000's)	% of Livstk. and Lvstk. Prod. to all Farm Prod.
Amador	1,668	3,848	5,516	70
Calaveras	2,563	2,438	5,001	49
Contra Costa	22,688	8,615	31,303	28
El Dorado	6,929	2,109	9,038	23
Fresno	396,771	65,888	462,659	14
Madera	59,040	20,756	79,796	26
Merced	111,564	54,742	166,306	33
Monterey	184,413	28,320	212,733	13
Nevada	1,679	725	2,404	30
Placer	15,213	7,373	22,586	33
San Benito	25,753	7,049	32,802	21
Santa Clara	64,876	10,192	75,068	14
Stanislaus	148,049	61,625	209,672	29
Tuolumne	<u>2,029</u>	<u>2,837</u>	<u>4,866</u>	<u>58</u>
Fol. Dist.	1,043,235	276,515	1,319,750	21
Calif.	3,519,028	1,065,210	4,584,238	23

1/ Includes Poultry, Poultry Products, and Apiary Products

Mariposa County omitted because of lack of data

Source: County Agricultural Commissioners, Annual Crop & Livestock Reports
(1968 data)

Livestock Sector:

1. Present Situation - Livestock production is an important industry in most counties within the District boundaries. Table 5 shows livestock numbers at five year intervals for the fifteen counties where public lands contribute forage for livestock production. It is estimated that 66% of the cattle numbers are located on feed lots where high production can be obtained.

Table 6 summarizes grazing on the District starting in 1959. Although the data is not entirely reliable, downward trends can be observed in numbers of leases, acres leased, and livestock operators. Leases have decreased from a high of 385 in 1959 to 250 in 1970. The number of acres has decreased from 392,138 in 1961 to 329,282 in 1970. The number of operators has decreased by over 100 during the ten year period of 1959 - 1969. Reduction in estimated carrying capacity has been made over the past four years as range survey data has been obtained. Table 7 shows the current breakdown of leases by county.

Livestock numbers do not truly reflect grazing pressure on BLM lands as the public lands usually make up a small portion of the land grazed, but livestock numbers are often the operators total herd.

Grazing is usually limited to a short period during winter and spring months when annual plants are available. The cattle operations are principally steers which can be bought and sold as variable forage conditions dictate. Sheep numbers however are rapidly declining because

of difficulty in obtaining forage during summer and fall months, high labor costs and low prices.

TABLE 5

Livestock Distribution

<u>County</u>	1956		1960		1965		1970	
	<u>Cattle</u>	<u>Sheep</u>	<u>Cattle</u>	<u>Sheep</u>	<u>Cattle</u>	<u>Sheep</u>	<u>Cattle</u>	<u>Sheep</u>
Amador	15,900	5,700	15,200	5,500	13,000	4,400	20,100	2,300
Calaveras	25,000	14,400	26,800	13,800	27,200	5,900	31,800	4,800
Contra Costa	41,900	14,100	43,800	13,900	53,000	10,000	65,200	9,400
El Dorado	12,700	7,500	12,700	7,500	11,300	4,800	12,900	1,800
Fresno	200,100	71,200	248,500	76,100	285,400	108,900	308,900	96,300
Madera	108,400	17,800	127,900	18,800	110,900	26,100	125,700	16,800
Mariposa	20,000	3,300	21,900	3,300	19,000	3,000	20,800	1,000
Merced	207,700	31,900	128,900	33,400	270,800	34,000	240,700	42,100
Monterey	107,200	10,400	114,600	10,000	127,100	9,200	201,300	8,000
Nevada	14,000	10,000	14,700	9,600	13,700	3,500	8,000	3,900
Placer	24,400	38,900	29,200	35,900	21,500	14,800	30,800	6,700
San Benito	54,700	15,000	56,800	15,100	68,300	8,600	60,200	6,500
Santa Clara	69,500	4,200	71,100	4,200	66,000	2,700	66,900	3,800
Stanislaus	237,200	12,000	246,200	12,400	282,600	8,100	266,500	5,600
Tuolumne	19,800	1,400	22,100	1,400	15,800	1,500	14,100	1,000
Totals ^{1/}	1,158,500	257,800	1,280,400	258,400	1,385,600	245,500	1,473,900	210,000

Source: California Crop and Livestock Reporting Service

^{1/} Includes livestock in feed lots

TABLE 6

District Grazing Summary

Cal. Year	<u>Leases (#'s)</u>	<u>Acres (acs)</u>	<u>An/Rental (\$)</u>	<u>Operators (#'s)</u>	<u>Cattle Horses (#'s)</u>	<u>Sheet Goats (#'s)</u>	<u>Actual Use (AUM's)</u>	<u>Capacity Available (AUM's)</u>
1969	270	332,445	26,708	253	39,341	43,025	60,700	60,700
1968	292	348,316	19,422	273	34,034	104,336	87,000	64,896
1967	306	333,193	16,970	281	34,234	85,306	85,000	127,500
1966	308	332,044	18,314	283	31,054	89,727	87,000	130,000
1965	321	386,725	22,926	295	32,897	70,668	89,059	130,000
1964	360	386,887	52,596	271	36,411	76,470	79,397	125,000
1963	338	373,400	16,315	297	36,440	58,079	89,427	105,000
1962	275	360,602	15,774	275	24,700	43,049	85,302	98,302
1961	360	392,138	20,718	325	27,229	51,321	94,171	110,171
1960	368	382,129	15,875	368	21,000	15,000	84,547	100,000
1959	385	372,129	15,145	358	20,000	15,000	80,547	90,000

Source: District Annual Statistical Reports

TABLE 7

Grazing Lease Breakdown by County

11/25/70

<u>County</u>	<u>No. BLM ^{1/} Leases</u>	<u>Acres Leased</u>	<u>AUM's Sold</u>	<u>Total AUM's ^{2/} Required</u>
Amador	9	3,326	740	8,484
Calaveras	25	18,079	2,159	13,572
Contra Costa	1	360	72	240
El Dorado	14	3,637	680	6,120
Fresno	47	107,925	13,835	182,658
Madera	4	1,651	391	4,680
Mariposa	22	58,007	4,577	43,224
Merced	4	4,737	717	27,960
Monterey	30	34,894	2,553	47,460
Nevada	13	1,595	347	3,564
Placer	2	123	17	180
San Benito	31	65,133	6,388	96,186
Santa Clara	8	5,826	636	3,492
Stanislaus	5	2,668	354	3,576
Tuolumne	<u>35</u>	<u>21,321</u>	<u>2,061</u>	<u>20,048</u>
Total	250	329,282	35,488	461,444

^{1/} Lease is shown in the county with the most acreage.^{2/} Based on animals grazed on BLM lands.

2. Future Outlook to 1980 - Illustration 1 shows the trend in livestock production from 1955 to 1970. This graph shows a gradual increase in cattle numbers. On a district basis the increase from 56 - 70 for cattle was 27%. Sheep numbers while remaining fairly stable from 1956 to 1968 have declined rapidly the past two years. The decrease was 18% on a district basis. This same trend is evident in Table 6 which shows numbers of livestock grazing BLM lands.

It is felt that cattle numbers will continue to increase moderately for the region as a whole. Steer operations will continue to replace sheep use on land suitable for the change in class of livestock. Sheep numbers will decline as more of their range is converted to production of agriculture crops and labor prices increase.

Livestock use on BLM lands will continue at approximately the present level. Leased acreage will decrease as grazing fees are raised and small operators and weekend ranchers discontinue their leases on public lands. An increase demand on public land for uses other than grazing will eliminate additional acreage from grazing. These reductions will be partly offset by increased livestock production on the large leases where range improvements and grazing management plans are emphasized.

California Livestock Trends for 15 Selected Counties

Illustration I

Cattle

Sheep

1955
1956
1957
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Overall regional production of livestock will increase while the amount contributed by public lands will decrease.

Source: Projections relating to Calif. Ag. in 1975

Calif. Ag. Exp. Bulletin 778; 1961

Forestry

Forestry

Forest resources in the Folsom District are compared with the state's total in Table 1.

The Folsom District encompasses 21 percent (4,097,000 acres) of the State's commercial forest land; sixty percent of which is under the jurisdiction of several public agencies, primarily the Forest Service.

Of the public commercial forest land within the District, public domain timber land accounts for 1.6 percent (39,000 acres) or about 95/1000th of the District-wide commercial timberland.

Forestry and wood products employment, importance in the State and District, is depicted in Tables 2 and 3.

TABLE 2

Percent of Employment in Lumber and Wood Production Industries
for Selected Counties

<u>County</u>	1960	1965	1968
El Dorado	11.8	6.4	6.1
Nevada	11.9	6.4	4.7
Tuolumne	20.0	15.5	12.5

Employment attributed to timber and timber-based industries is of minor importance when considering the total employment force in the central counties of California. Of all twenty-five counties within the District

TABLE I

Area of Counties by Major Land and Ownership Class of Commercial⁽¹⁾ Forest Land
within the Folsom District, California 1965

County	FOREST LAND							
	Total Land Area (2)	Total	Total	All Public	BLM	Private	Non Commercial	NON FOREST LAND
Alameda	469	83	--	--	-	--	83	-
Alpine	463	344	104	86	-	18	240	119
Amador	380	303	139	44	2	95	164	77
Calaveras	657	573	244	77	11	167	329	84
Contra Costa	470	59	--	--	-	--	59	411
El Dorado	1,097	981	685	326	5	359	296	116
Fresno	3,817	1,467	466	426	-	40	1,001	2,350
Madera	1,372	707	275	243	.6	33	432	665
Mariposa	931	748	393	230	2	63	455	183
Merced	1,268	80	--	--	-	--	80	1,188
Mono	1,938	693	124	104	-	20	569	1,245
Monterey	2,127	1,128	21	16	-	5	1,107	999
Nevada	626	542	363	132	8	231	179	84
Placer	911	686	443	212	6	231	243	225
Sacramento	629	44	--	--	-	--	44	-
San Benito	893	416	7	6	-	1	409	447
San Francisco	29	0	--	--	-	--	-	29
San Joaquin	902	43	--	--	-	--	43	859
San Mateo	291	127	62	8	-	54	65	164
Santa Clara	833	422	26	2	-	24	396	411
Santa Cruz	218	190	132	9	-	125	56	91
Stanislaus	960	186	--	--	-	--	186	774
Sutter	388	27	--	--	-	--	27	361
Tuolumne	1,455	1,145	619	443	3	176	526	310
Yuba	408	199	116	45	1	71	83	209
Total State	100,185	43,416	18,769	10,677	303	8,092	23,816	57,796
All Counties within District	23,532	11,193	4,221	2,408	39	1,713	7,072	11,401

(1) 1970 California County Fact Book, County Supervisors Association of California

(2) U.S. Bureau of Census 1960

Source: U.S. Department of Agriculture, Forest Service Pacific Southwest
Forest and Range Experiment Station, Present and Prospective
Development of the Timber Resources and Forest Industries by
Daniel D. Oswald

Department of Conservation
Division of Forestry



(Table 3) only one percent of the total employment is in the lumber and wood production field - some 20,000 to 23,000 workers. The importance of primary manufacturing timber based industries as a source of employment even in those counties most dependent on that segment, has been steadily declining as shown in Table 2.

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TABLE 3

DISTRIBUTION OF LUMBER & WOOD PRODUCTION EMPLOYMENT BY COUNTY
AND BY PERCENT OF TOTAL COUNTY EMPLOYMENT

County	1960 ⁽¹⁾		1965		1968	
	Employees	%	Employees	%	Employees	%
Alameda	2,829 f	0.8	4,300 f	1.0	3,700 f	0.8
Alpine	3	2.8	(d)		(d)	
Amador	582	1.7	(d)		625	1.7
Calaveras	717 f	1.9	375	1.0	200	0.5
Contra Costa	635 f	0.6	400 f	0.3	300 f	0.2
El Dorado	1,072 f	11.8	700	6.4	725	6.1
Fresno	1,510 f	1.0	(d)		(d)	
Madera	502 f	3.9	274	1.9	325	2.2
Mariposa	120 f	6.8	25	1.1	0	0.0
Merced	99 f	0.3	(d)		(d)	
Mono	24 f	2.2	(d)		(d)	
Monterey	300 f	0.5	(d)		(d)	
Nevada	678	11.9	400	6.4	325	4.7
Placer	761	4.3	(d)		(d)	
Sacramento	1,302 f	0.7	(d)		(d)	
San Benito	26	0.4	(d)		(d)	
San Francisco	3,000 f	0.6	1,600 f	0.3	1,600 f	0.3
San Joaquin	1,417	1.6	(d)		(d)	
San Mateo	900 f	0.7	1,100 f	0.6	900 f	0.4
Santa Clara	1,323	0.5	(d)		(d)	
Santa Cruz	530	1.8	(d)		(d)	
Stanislaus	236	0.4	(d)		(d)	
Sutter*	336	1.5	725	3.0	900	3.3
Tuolumne	980	20.0	875	15.5	825	12.5
Yuba*	*	*	*	*	*	*
State Total	80,718		92,200 ⁽²⁾		97,000 ⁽²⁾	
Total Within District	19,882		22,100 ⁽³⁾		23,300 ⁽³⁾	

% Within District 24%

* Sutter-Yuba employment combined

~~f~~ Includes lumber and furniture manufacturing

(d) Omitted to avoid disclosure of confidential information

(1) 1960 Population Census, General & Social Economic Characteristics, Table 85

(2) California Statistical Abstract, 1969, Table C-5 (Summary)

(3) Data not available, but assumed to remain at 24% of the State total in this industry.

Mill location and migration patterns are dramatically portrayed in Figures 1, 2, 3, 5, and Illustration No. 1. The rapid buildup of the lumber industry after World War II was followed by a sharp decline in milling operations. The decline in numbers of operators which began in the mid 1950's has continued to the present time. All forecasts indicate that this trend will continue in the future.

While Illustration No. 1 depicts the state-wide trend in production and number of operators, the trend and magnitude applies equally well to this District.

A dramatic shift has been occurring in the forest industry-based employment patterns and mill locations of the District. Small mills, located near the timber resource, have been replaced by complete utilization and production centers close to the markets for their finished products. This shift will continue in the future. Increased worker productivity and decrease timber supplies (population growth will result in conversion of timber lands to other uses, and stands of old growth on private land will have diminished) will result in a decline of the primary manufacturing industry.

Secondary or market-oriented manufacturing located in the major metropolitan areas will provide the growth in the forest industry based employment field in years to come. This growth in or near the major population centers, to supply consumer demand, is for the most part not dependent on local timber supplies, but rather reflects customer demand. See Illustration No. 2.

FIGURE 1

ACTIVE SAWMILLS

IN

FOLSOM DISTRICT

1941

LEGEND

- 50 million board feet and over
- 25-49.9 million board feet
- 10-24.9 million board feet
- less than 10 million board feet
- unclassified

- △ DISTRICT OFFICES
- △ STATE OFFICE
- COUNTY BOUNDARIES
- BLM DISTRICT BOUNDARIES



FIGURE 2

ACTIVE SAWMILLS

IN

FOLSOM DISTRICT

1947

LEGEND

- 50 million board feet and over
- 25-49.9 million board feet
- 10-24.9 million board feet
- less than 10 million board feet

- DISTRICT OFFICES
- STATE OFFICE
- COUNTY BOUNDARIES
- BLM DISTRICT BOUNDARIES

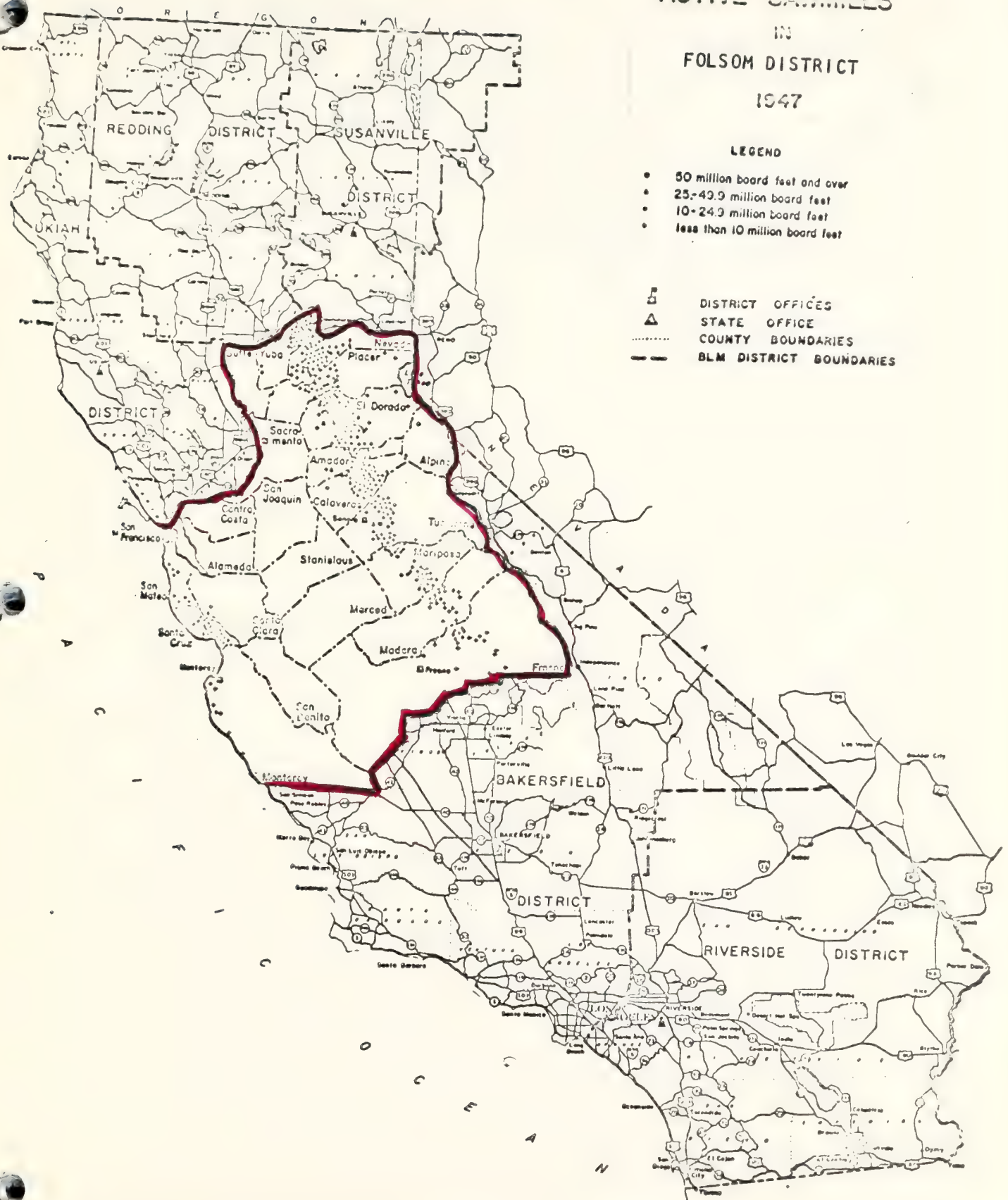


FIGURE 3
ACTIVE SAWMILLS
IN
FOLSOM DISTRICT
1936

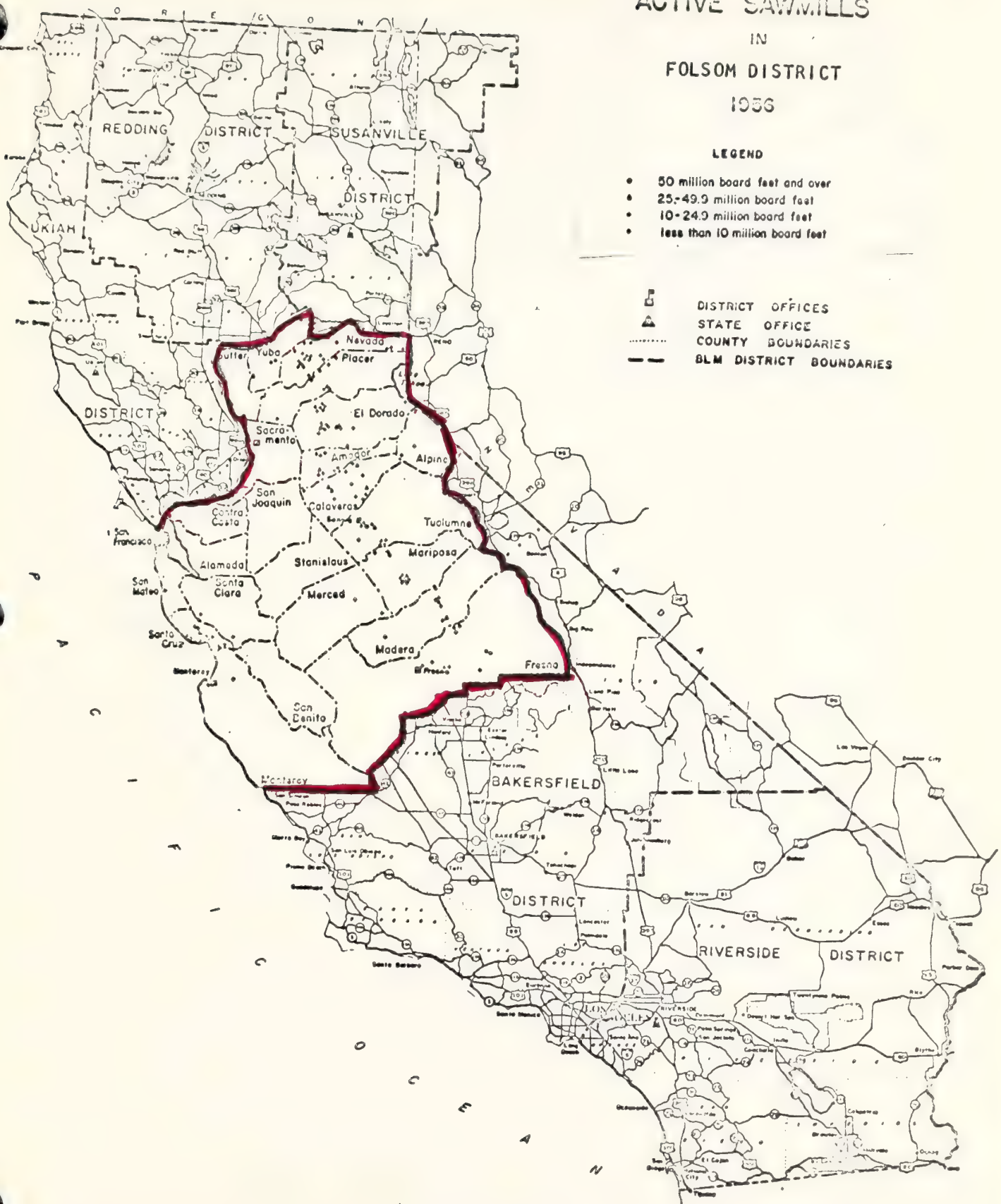


FIGURE 4

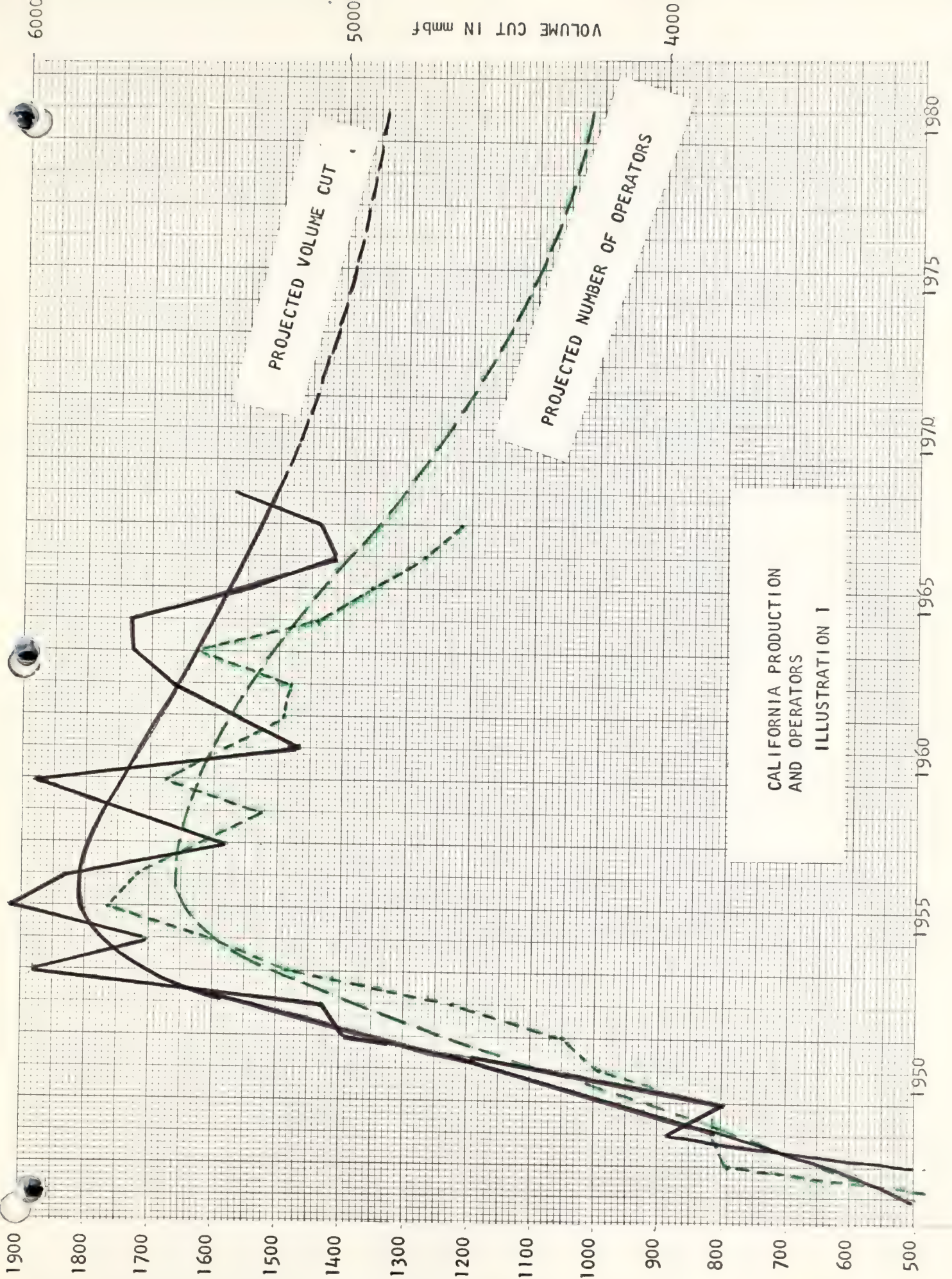
ACTIVE SAWMILLS IN FOLSOM DISTRICT 1962

LEGEND

- 50 million board feet and over
- 25-49.9 million board feet
- 10-24.9 million board feet
- less than 10 million board feet

- DISTRICT OFFICES
- STATE OFFICE
- COUNTY BOUNDARIES
- BLM DISTRICT BOUNDARIES





CALIFORNIA PRODUCTION
AND OPERATORS

ILLUSTRATION 1

ILLUSTRATION # 2

CURRENT AND PROJECTED TRENDS
IN TIMBER BASED EMPLOYMENT IN
CALIFORNIA - - Folsom District
employment patterns will follow
the state trend closely.

NUMBER OF EMPLOYEES

total current and projected employment
in wood, pulp, and forest management in
California. (in thousands)

current and projected employment
in pulp and paper industry.
(in thousands)

current and projected employment
in lumber and wood products industry
(in thousands)

current and projected employment
in forest management
(in thousands)

140

120

100

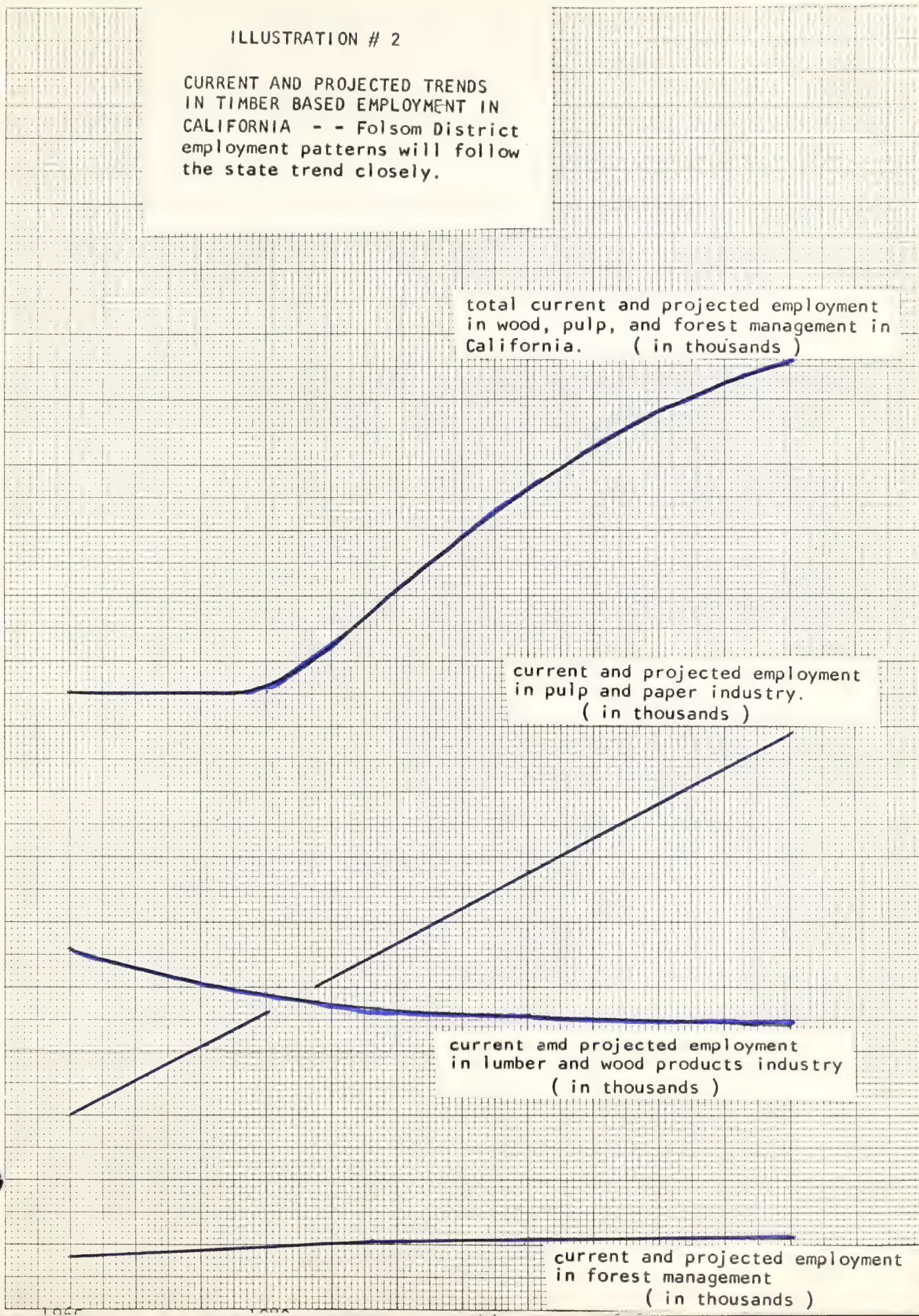
80

60

40

20

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Bench Mark Projections to 1980:

Production will decline as available old growth from private land, the mainstay of the lumber industry for the past 100 years, is cut out. Increased harvest of old growth public timber (primarily USFS) will moderate the effect of the private timber harvest decline. By 1980, public timber harvest may increase 15 percent from current levels, however, total harvest within the state will be 4.4 billion board feet, down from 5.3 billion in 1965. (See Illustration No. 3).

Fluctuations in harvest will be unequal. The most dramatic change in the District-wide timber harvest will occur in the Diablo Resource Area (-63%), due primarily to withdrawal of timber lands for recreation purposes. The Northern Mother Lode Resource area will experience a 3 percent decline while the Southern Mother Lode Resource area will go counter to the State-wide trend and increase total harvest 14 percent.

Total State consumption of wood will increase 2.6 percent by 1980. Roundwood pulpwood will increase 40 percent and use of plant residues will increase 164 percent (See Table No. 4).

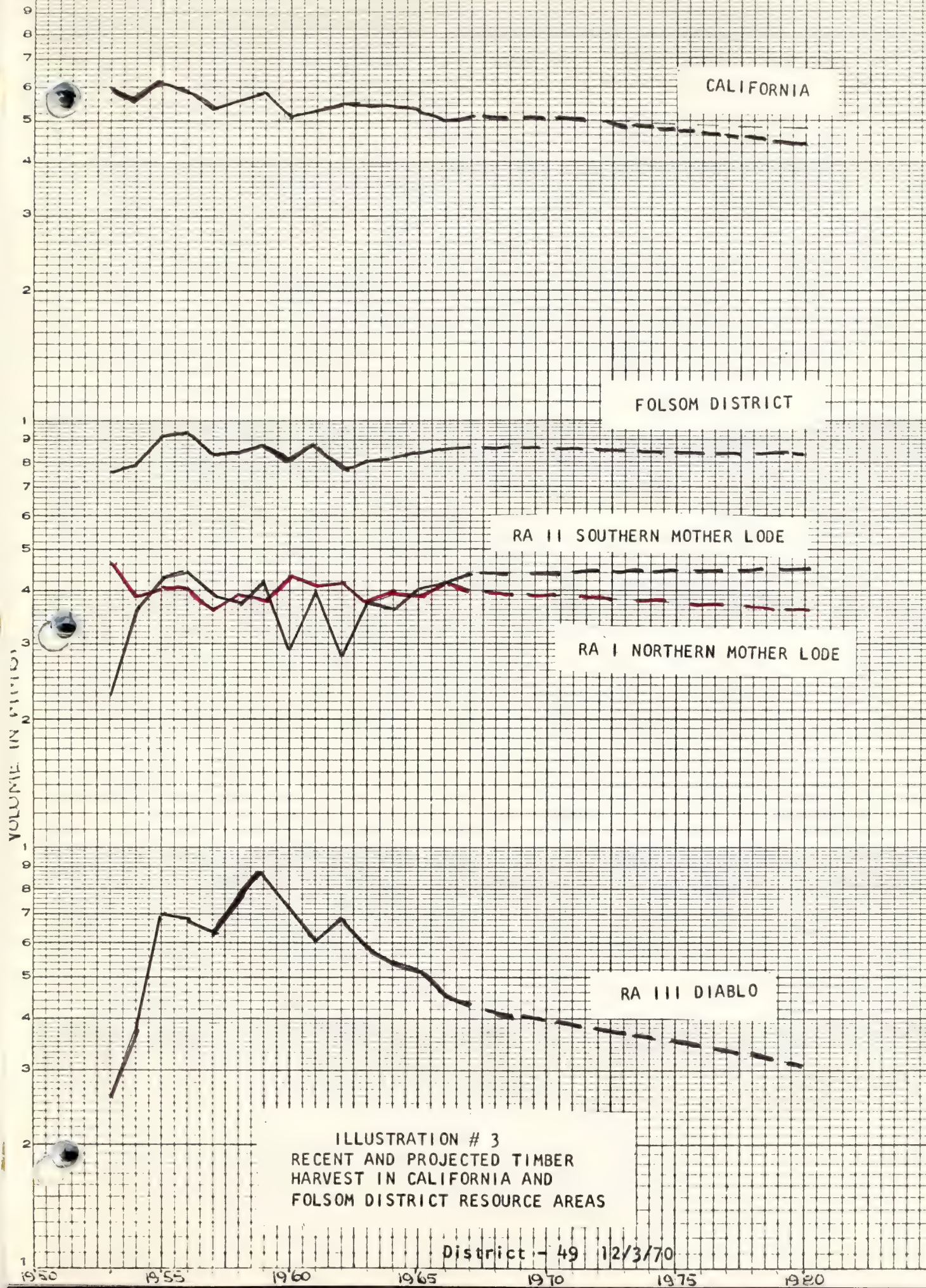


ILLUSTRATION # 3
RECENT AND PROJECTED TIMBER
HARVEST IN CALIFORNIA AND
FOLSOM DISTRICT RESOURCE AREAS

District - 49 12/3/70

TABLE 4

* ESTIMATED TOTAL WOOD CONSUMPTION FOR MAJOR FOREST PRODUCTS AND
USE IN CALIFORNIA 1965-1980 (in million cubic feet)

Year	Total Consumption	: R O U N D W O O D :			
		: Total	: Saw Logs, Veneer Logs & Misc.	: Pulpwood:	: Plant Residues
1965	968	883	878	5	86
1980	993	764	757	7	227
% Change	+2.6	-15.6	-16	+40	+164

* From Table 11, page 88, Draft of "Prospects For Forest Industrial
Development in California, 1965 - 2020" by D.D. Oswald, PNF&R
Experiment Station, Portland, Oregon, USFS, 1970.

TABLE 5

* CURRENT AND PROJECTED LOG & PRODUCT PRODUCTION IN FOLSOM DISTRICT,
BY RESOURCE AREA, 1965 - 1980

Subregion	(International $\frac{1}{4}$ inch rule) in million BF			Million cubic feet		
	1965	1980	% Change	1965	1980	% Change
Northern Mother Lode	390	368	-6	65	63	-3
Southern Mother Lode	403	446	+10	70	78	+14
Diablo	49	32	-53	9	5	-65
District Total	842	846	+0.5	144	146	+1.7
State	5,271	4,383	-20	878	757	-16

* Abstracted from Tables 12 and 13 IBID

Recreation and Tourism

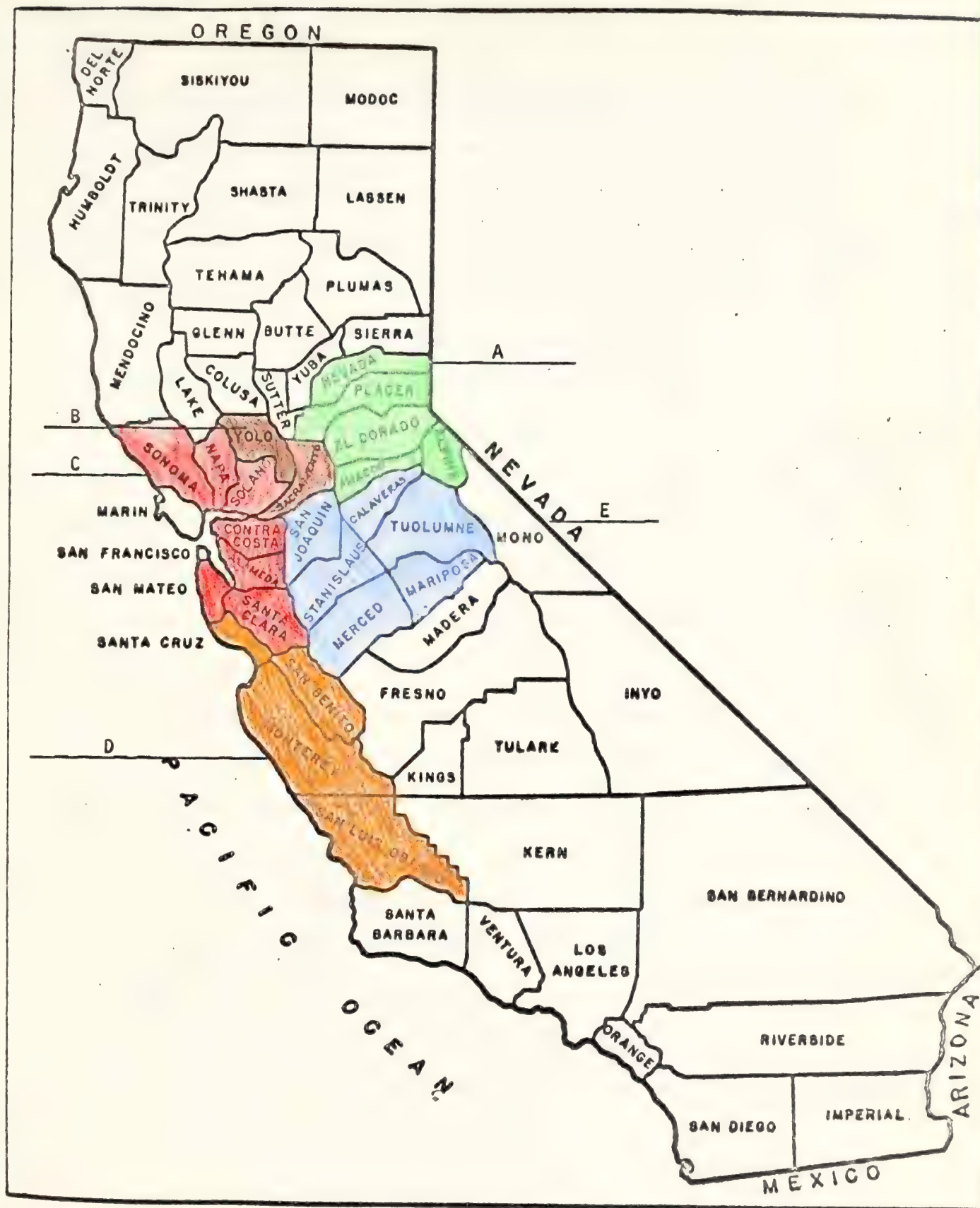
This industry, probably one of the largest in the district, is the one most difficult to obtain data for. There is no central state agency which compiles and correlates this type of information. The latest information was found in "The California Tourism Industry - Trends and Investment Opportunities" 1966. This document presented data on different tourism areas within the state. This data will be used while an attempt is being made to collect more meaningful data on recreation use within the district. Hunting use and demand is fairly well documented by the California Department of Fish and Game. The data supplied by them was of sufficient detail to allow certain analysis to be made.

The tourism areas located within the district boundaries are shown in Illustration 1. Even though some of the areas extended outside of the district boundary, no attempt of extrapolation was tried. The data was used as presented in the source document. Areas A and E were considered as being the Mother Lode subdistrict statistical area and Area D as the Diablo subdistrict statistical area.

Lake Tahoe Area (Area A):

General - The Lake Tahoe area includes those counties surrounding and near to Lake Tahoe: Alpine, Amador, El Dorado, Nevada and Placer.

District Tourism Areas



Lake Tahoe Area's major tourist attraction is one of California's most popular recreation resources among both residents and out-of-state visitors. Lake Tahoe was the third most frequented single destination. (multiple destination activities such as fishing, boating, and hiking are excluded) Of California residents on overnight trips within the state an average of 43.3 out of every 1,000 California households visited Lake Tahoe in 1966. The lake enjoys even greater popularity among out-of-state automobile visitors in July and August. Besides the Lake Tahoe tourism complex this area contains the Northern portion of the Mother Lode Country and, in the extreme western part, a portion of Folsom Lake.

Number of Visitors - Visitor totals for this Area (A), including both California residents and out-of-state visitors, are shown in Table 1. Among California residents, some 2,175,000 individual visitors traveled to this area for pleasure in 1966. The regional population base is quite small, which means that visitors will tend to stay overnight. This accounts for the extremely large number of overnight visitors, 1,700,000. The remainder, an estimated 475,000, persons, took one-day trips. Visitors on one-day trips come more or less equally from the North Region, which includes local residents, the San Francisco Bay Area, and the Central region which includes Stockton and Modesto. The San Francisco Bay area contributed the vast majority of those staying overnight.

TABLE 1

Distribution of California Resident and Out-of-State Visitor Trend 1966
(All figures in 1,000's)

Destination Areas

Calif. Residents - Pleasure Trips	Destination Areas					District Total	State Total	District %
	Tahoe Area (A)	Sacto Urban Area (B)	S.F. Bay Area (C)	Central Coast Area (C)	N. San Joaquin Area (E)			
Number of Parties								
One-day trips	120	520	5,370	1,630	450			
Overnight Trips	425	130	925	550	525			
Total	545	650	6,295	2,180	975	10,645	---	
Number of Visitors								
One-day trips	475	2,010	20,705	6,400	1,780			
Overnight trips	1,700	500	3,600	2,175	2,100			
Total	2,175	2,510	24,305	8,575	3,880	41,445	108,410	38
Out-of-State - All Visitors								
Number of visitors by Auto								
Non-border States - Tourists	305	390	2,015	360	565			
Border States - Tourists	290	260	1,665	260	260			
Sub Total	595	650	3,680	620	825			
Border States - Local Visitors	200							
Total	795					6,570	16,590	42
Number of Visitors by Air	145	405	2,110	595	280			
Total Out-of-State Total Visitors	940	1,055	5,790	1,215	1,105	3,535	9,300	38
	3,115	3,565	30,095	9,790	4,985	51,550	24,890	41
							133,300	39

Source: Economics Research Associates

Visitors from other states in 1966 are estimated to have totaled 940,000. Of them, 200,000 were border state visitors on one-day trips from Nevada. Thus 740,000 came from out of state as tourists, 595,000 entering California by automobile and 145,000 by air. Of the 595,000 automobile tourists, an estimated 305,000 came from non-border states and 290,000 from Oregon, Nevada, and Arizona.

During the summer, out-of-state automobile visitors stayed for an average of 4.06 days. Border state visitors on purely local trips are included in the average. They spent an average of 2.9 days in the area (this relatively long stay reflects the few border state local tourists vacationing in second homes in the California portion of the Lake Tahoe Area). Border state tourists spent an average of 8.67 days in the area and non-border state tourists, 1.93.

Sacramento Urban Area (Area B):

The Sacramento Urban Area includes the counties of Sacramento and Yolo. The major recreational facility in the immediate vicinity of Sacramento is Folsom Lake, which enjoys the highest attendance of any of the California state parks.

Some 650,000 California parties representing a visitor total of 2.51 million came only for the day and 500,000 stayed overnight. On a seasonal basis, the peak visitation occurred in the third quarter when 1,035,000 California residents took pleasure trips. The major source of visitors on one-day trips was the North region of California, which includes local residents of this area. Visitors on overnight trips were evenly distributed throughout the state including large numbers from the San Francisco and Los Angeles metropolitan areas.

San Francisco Bay Area (Area C):

The Bay area comprises the nine counties which border the Bay. The area includes the counties of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Sonoma, Napa and Solano. Of these Alameda, Contra Costa, San Francisco and Santa Clara Counties are located within the Folsom District boundaries.

The San Francisco Bay area's status as a major tourism complex extends not only to the State of California, but is also national and international in significance. General sightseeing in the city of San Francisco is one of the most popular attractions both for California residents and out-of-state visitors. Among California residents on one day trips, this activity ranked fifth in popularity with a visitation rate of 31.7 per 1,000 households during a three month period in 1966. It ranked first as a single destination activity, after multiple destination activities of fishing and hiking among California residents on overnight trips during a 12 month period.

Sightseeing in San Francisco also ranked high among all out-of-state tourists during July and August 1966. It placed second with a visitation rate of 254.9 per 1,000 out-of-state visitors.

Visitor totals, embracing all categories, for the San Francisco Bay area are outlined in Table 1. It is estimated that approximately 6.3 million California parties made trips to the San Francisco Bay Area representing 24.3 million California pleasure visitors.

The Central Coast Area (Area D):

This area includes the counties of Monterey, San Benito, San Luis Obispo and Santa Cruz.

The Carmel-Monterey area is one of California's most frequented tourist centers by both California residents and out-of-state visitors. Of specific destinations for an overnight trip in the state the area achieved fourth place among California residents, recording a visitation rate of 41.7 out of every 1,000 tourist parties. Also, of specific destination areas, the Carmel-Monterey Area ranked sixth among out-of-state tourists of California during July and August of 1966, with a visitation rate of 75.2 per 1,000 who entered the state by automobile. This represents a combined average of 115.6 visitors per 1,000 non-border state auto visitors and 37.6 per 1,000 border state auto visitors. For the central coast area the number of visitors, both California residents on pleasure trips and total out-of-state visitors is presented in Table 1. An estimated total of 2.18 million California groups, comprising 8,575,000 individuals, traveled to this area for pleasure during 1966.

North San Joaquin Area (Area E):

The North San Joaquin area consists of San Joaquin County, Calaveras, Mariposa, Merced, Mono, Stanislaus, and Tuolumne Counties.

Yosemite National Park, one of the State's most popular recreation areas among all categories of visitors, is the leading tourist attraction in this area. Yosemite ranked second among California residents on

overnight trips, achieving a visitation rate of 44.2 per 1,000 parties during a 12 month period. In addition to Yosemite National Park, this area contains the southern portion of the Mother Lode country. State parks include Calaveras Big Trees, and Columbia Historical Park. One of the more famous festivals in the state is the Jumping Frog Jubilee in May at Angeles Camp in Calaveras County.

Visitor totals for this area, both of California residents on pleasure trips and total out-of-state visitors, appear in Table 1. An estimated 975,000 parties, consisting of 3,880,000 California residents visited this area on one day and overnight trips. Also during 1968 an estimated 1,105,000 out-of-state visitors traveled to this area.

Hunting:

Present Situation - Deer hunting is a very popular form of recreation use in the Folsom District. There are sixteen major deer herd units within the district boundaries that are influenced by public domain.

There are over 380,000 acres of valuable deer habitat on BLM lands within these herd units. (Table 2) Approximately 55,000 hunter days are expended on BLM lands each year. (Table 3) Based on a three year average (1967-1969) 40% of these hunter days were by non-local hunters. Out of state use is not significant.

TABLE 2

Deer Habitat - Folsom District

<u>Herd Unit</u>	<u>Total Range (Acres)</u>	<u>BLM Range (Acres)</u>	<u>%</u>
*Nevada City	104,090	11,980	11.5
*Blue Canyon	39,132	5,074	13.0
*Pacific	57,600	360	.5
*Grizzly Flat	102,400	1,740	1.5
*Salt Springs	56,030	2,510	4.5
*Railroad Flat	43,960	2,200	5.0
*Stanislaus	143,700	6,680	4.5
*Tuolumne	115,198	2,450	2.0
*Yosemite	230,400	20,920	9.0
Camp Beal	640,000	9,000	1.4
Placerville	400,000	25,862	6.5
Mariposa	980,000	104,677	10.5
Pacheco	140,800	6,400	4.5
Avenal	89,600	44,800	50.0
San Benito	515,200	103,040	20.0
Santa Lucia	<u>1,100,000</u>	<u>35,000</u>	<u>3.0</u>
Total	4,758,130	382,693	8.0%

*Migratory herd units, figures shown are winter range

Ref. Forest Service Herd Unit Habitat Management Plans

There are several species of upland game that furnish good hunting opportunities within the district. Quail, chuckar, doves and pigeons are the major game birds and cotton tail rabbit, and grey squirrel the small mammals. Because of insignificant data no attempt is made to estimate hunter days expended in pursuit of these species on BLM lands. Most of the upland game hunting on public lands is done in Fresno, San Benito and Monterey Counties. But there are no communities dependent upon revenue derived from hunting on public lands.

Streams of the Mother Lode area furnish a limited amount of bass and trout to fisherman. We cannot at this time make an estimate of the impact on the district economy these recreation activities have. It is felt however to be very small.

TABLE 3

Deer Hunter Harvest Data Folsom District

Herd Unit	** Buck Kill	**% Hunter Success	Hunter	**Ave Days Hunter	Hunter Days	%Harvest Att. BLM Land	Total Hunter Days Attributed BLM Land	Non-Local on BLM
*Nevada City	266	13.4	1,985	7.9	15,681	11.5	1,803	1,190
Camp Beal	786	"	5,866	"	46,341	2.0	927	612
*Blue Canyon	554	"	4,134	"	32,659	13.0	4,246	2,802
*Pacific	495	"	3,964	"	29,183	.5	146	36
*Grizzly Flat	234	"	1,746	"	13,793	1.0	138	91
Placerville	928	"	6,925	"	54,707	6.5	3,556	2,347
*Stanislaus	447	"	3,336	"	26,354	4.5	1,186	783
*Tuolumne	407	"	3,037	"	23,992	2.0	480	317
*Yosemite	277	"	2,067	"	63,293	9.0	5,696	3,759
Mariposa	442	"	3,298	"	26,054	10.5	2,736	1,806
*Salt Springs	260	"	1,940	"	15,326	4.0	613	405
*Railroad Flat	863	"	6,440	"	50,876	5.0	2,544	1,679
San Benito	1,196	"	8,925	"	70,507	20.0	14,101	2,679
Pacheco	362	"	2,701	"	21,338	4.0	854	162
Avenal	255	"	1,903	"	19,030	66.0	12,560	2,386
Santa Lucia	1,131	"	8,440	"	66,676	5.0	3,334	633
TOTALS	8,903	13.4	66,437	7.9	575,810	-	54,920	21,747

* % Harvested attributed to BLM is based on percent winter range controlled by BLM

** These figures are averages for years 1964 through 1969.

Ref: Annual Wildlife Management Unit Reports CDF&G
Annual Game Take Hunter Survey Report CDF&G

Benchmark Projection 1980:

Deer hunters will increase over the next ten years. The increase is expected to be proportionate to the population increase. (Table 4)

TABLE 4

Deer Licenses

<u>Year</u>	<u>Licenses</u>	<u>Population</u>	<u>%</u>
1964	405,600	18,234,000	2
1965	409,000	18,756,000	2
1969 (70)	415,000	21,734,000	2
1980	562,740	28,137,000	2

Based on an average number of hunters in the district and a percent of total licenses issued, Table 5 shows the expected hunter days in 1980 providing BLM maintains the same percent as in 1970.

TABLE 5

1980 Projected Hunter Days

<u>Area</u>	<u>Hunter Days</u>
District	71,130
Mother Lode	31,297
Diablo	39,833

Actual deer numbers are expected to decline slightly as habitat decreases. Improved fire control, brush conversion and land development will be some of the factors that will create this decline. With the decline of habitat on private land, public lands will be called upon to furnish a greater percent of the hunting opportunities in the future.

A conservative estimate is that by 1980 the demand for hunting on BLM land will increase by 50%. Using the figures developed in Table 5, the potential hunter day use of BLM land in 1980 is shown in Table 6.

TABLE 6

Potential Estimated Hunter Day Use for BLM Land by 1980

<u>Area</u>	<u>Hunter Days</u>
District	106,695
Mother Lode	46,946
Diablo	59,750

Upland game hunters are expected to increase at a faster pace than deer hunters over the next ten years. No estimate of hunter days can be estimated except that the total number is more than for big game. Table 7 shows the upland game license relationship.

TABLE 7

Upland Game License Projections for 1980

<u>Year</u>	<u>Licenses</u>	<u>Population</u>	<u>%</u>
1964	689,000	18,234,000	4
1965	644,900	18,756,000	3
1969 (70)	769,000	21,734,000	4
1980	1,125,480	28,137,000	4

The license increase and expected projection for deer and upland game is shown in Table 8.

TABLE 8

License Percent Increase

<u>Type</u>	<u>Year</u>	<u>Percent</u>
Deer	1964 - 1969	2
Deer	1970 - 1980	36
Upland Game	1964 - 1969	12
Upland Game	1970 - 1980	46

Upland game numbers are not expected to change by any large degree by 1980. Loss of habitat to land development will be offset by habitat improvements. It is felt that as habitat on BLM land is improved and access is increased, upland game hunting will double on BLM lands by 1980.

Mining



Mining

Compared to those employed in all industries in the Folsom District, slightly more than 0.2% or 3,728 are engaged in the mineral extraction industries (See Table 1).

During 1968, the total value of all mineral commodities produced in the Folsom District was \$300.7 million, down less than 2% from the total value of \$305.6 million produced during 1965. During 1968, the total value of all mineral commodities produced in California was \$1,808.1 million, an increase of 13% above the total of \$1,559.4 million produced during 1965 (See Tables 2 & 3).

Petroleum and natural gas account for about 45% of the total value of minerals produced in the District. Fresno and Monterey Counties lead in petroleum production whereas Sacramento, Sutter, and San Joaquin Counties lead in natural gas production.

The value for stone, sand, and gravel amounts to about 20% of the total value of mineral production. Virtually all counties in the Folsom District produce these commodities.

In some of the small communities in the Mother Lode and Coast Range areas, where the minerals are being extracted and processed, minerals are the main economic impetus. The major market center for the raw mineral commodities is the San Francisco Bay Area. The minerals being produced in the Folsom District, in part, supply the

TABLE 1

MINERAL EXTRACTION AND ALL INDUSTRIES EMPLOYMENT AND POPULATION
COMPARISON, FOLSOM DISTRICT vs CALIFORNIA

County	Population(1)	Persons Employed all industries (2)	Persons Employed (2) in Mineral Extraction
Alameda	1,051,100	283,561	1,131
Alpine	500	(a)	(a)
Amador	12,400	1,850	(a)
Calaveras	13,700	2,137	(a)
Contra Costa	560,900	95,412	236
El Dorado	45,600	7,044	100
Fresno	417,500	114,378	677
Madera	44,900	9,819	(a)
Mariposa	6,100	1,486	20
Merced	107,600	21,817	55
Monterey	244,900	55,942	433
Nevada	26,500	3,817	12
Placer	80,300	11,589	19
Sacramento	632,600	119,022	62
San Benito	18,800	6,869	233
San Francisco	706,900	368,861	334
San Joaquin	293,900	76,364	51
San Mateo	550,400	147,156	19
Santa Clara	1,032,600	289,789	130
Santa Cruz	120,100	27,234	88
Stanislaus	199,000	51,215	110
Sutter	42,400	10,780	(a)
Tuolumne	21,000	3,830	18
Yuba	47,700	9,018	(a)
TOTAL FOLSOM DISTRICT	6,277,400	1,718,990	3,728
TOTAL CALIF.	19,856,000	5,383,525	32,400

- (1) As of July 1, 1969, Department of Finance, Budget Division, Financial and Population Research Section, 1970 Calif. County Fact Book, County Supervisors Association of California.
- (2) Department of Employment, Research and Statistics 1970 California County Fact Book, County Supervisors Association of California.
- (a) Omitted to avoid disclosure of confidential information.

TABLE 2

FOLSOM DISTRICT TOTAL MINERAL PRODUCTION BY COUNTY (c)
 COMPARED TOTAL MINERAL PRODUCTION 1965 and 1968 (in \$1,000)

<u>County</u>	<u>1965</u>	<u>1968</u>
Alameda	\$22,775	\$26,528
Alpine	81	(b)
Amador	3,060	3,394
Calaveras	18,128	14,558
Contra Costa	11,640	13,812
El Dorado	2,617	2,490
Fresno	74,742	64,309
Madera	1,559	1,309
Mariposa	141	161
Merced	7,408	(b)
Monterey	31,703	36,286
Nevada	799	739
Placer	1,190	958
Sacramento	21,751	29,718
San Benito	10,691	12,081
San Francisco	(a)	(a)
San Joaquin	17,169	14,059
San Mateo	14,510	14,805
Santa Clara	33,635	34,916
Santa Cruz	12,271	13,938
Stanislaus	1,346	1,445
Sutter	13,276	11,656
Tuolumne	1,678	1,216
Yuba	3,392	1,525
TOTAL FOLSOM DISTRICT	\$305,562 (a)	\$300,658 (a) (b)
TOTAL CALIFORNIA	1,599,388	1,808,147

(a) Only mineral commodity produced was sand and is not divulged separately.

(b) Omitted so as not to reveal data on individual producers

(c) Source: California Division of Mines and Geology

TABLE 3

TOTAL MINERAL COMMODITY PRODUCTION FOLSOM DISTRICT COMPARED
TO CALIFORNIA (3) (in millions \$)

Mineral Commodity	1965		1968	
	Folsom Dist	Calif.	Folsom Dist.	Calif.
Clays	.6	7.2	.5	6.6
Gold	2.0	2.2	.5	0.6
Lead	-	0.6	-	1.1
Mercury	.8	7.7	.5	11.5
Natural Gas	51.1	204.1	56.1	221.1
Peat	.1	0.4	-	(2)
Petroleum	79.7	753.1	75.6	883.6
Pumicite	-	1.7	-	1.3
Sand and Gravel	44.0	136.2	43.5	153.4
Silver	-	0.3	-	1.3
Stone	23.6	59.7	16.1	52.7
Tungsten	-	(2)	.5	(2)
Unapportioned (1)	<u>103.6</u>	<u>119.6</u>	<u>107.4</u>	<u>150.9</u>
TOTALS	305.1	1,599.4	300.7	1,808.9

(1) Includes bromine, clays, lime, magnesuim compounds, salt, cooper, gold, silver, zinc, lignite (coal), sand & gravel, soapstone, asbestos, cement, stone, mercury, peat, natural gas liquids, tungsten concentrates, gypsum, feldspar, natural gas, platinum, lead, pumicite, diatomite, and uranium ore.

(2) Included in Unapportioned

(3) Source: California Division of Mines and Geology

needs of this industrial complex. Included in these mineral commodities are mineral fuels, non-metallics and metallics.

Mineral Fuels:

Production of oil and gas is very important to the economy of the state as it provides a local source of supply for a large part of the energy requirements for the large and rapidly growing industry and population. Oil and gas production for 1968 in the Folsom District amounted to \$131.7 million which is the largest value for any mineral commodity. During 1968, oil and gas production in California amounted to \$1,104.7 million.

Major oil and gas fields are located in Fresno, Monterey, San Benito, Alameda, Contra Costa, Madera, San Joaquin and Sutter Counties. There is substantial effect (employment, supplies, taxes) on the local economy resulting from the operation and maintenance of these fields. Continuing exploration for new oil and gas fields by the major oil companies also adds to the local economy.

Oil and gas are transported by pipelines, ocean tankers or tank trucks to refineries located at the San Francisco Bay and Los Angeles population centers. The refineries are in part supplied by the oil and gas produced from the Folsom District Area. The petrochemical plants also receive their raw material from these same sources.

The natural gas produced in the Folsom District Area, while not sufficient to meet the domestic and industrial needs of the area, adds substantially to the primary and secondary economic factors.

By 1980, it can be expected that exploration for new oil and gas fields will decrease. It can be expected also that oil and gas production will decrease also, although secondary recovery attempts from existing fields will increase.

Non-Metallics:

Limestone - In this District, limestone deposits that are being mined include those in the Sierra foothills and in the Coast Ranges south of San Francisco. The economic base for Calaveras County depends to a very large extent on the mining of limestone and manufacture of cement since this activity is one of the leading industries of the county. The total economic significance of the cement industry in this District extends far beyond the boundaries of this District inasmuch as cement is exported elsewhere along the Pacific Coast and to Hawaii.

Folsom District's reserves of limestone are more than adequate to fulfill the demands of industry through 1980.

Sand and Gravel - Sand and gravel is another important non-metallic

mineral commodity produced in this District and during 1968, amounted to a value in excess of \$43.5 million. Since it is a low-cost commodity, and since transportation costs make up a significant portion of its cost to the user, the sand and gravel pits must be located relatively close to their markets. The effect of a burgeoning population and industrialization results in a tendency to force relocation of sand and gravel pits farther from their centers of consumption.

Speciality sands are produced for glass making, molding sand for foundries, and sand-blasting sand for shipyards and other industries. In Amador County, a substantial portion of the county economics is dependent upon the glass sand operations in the lone area. The beach and dune sands of the Monterey area also contribute material to that area's economic base.

Sand and gravel deposits in the Folsom District are more than adequate to satisfy the demands of industry through 1980. However, the tendency of the operations to locate farther from their markets results in increased transportation costs, thereby increasing the cost to the consumer. The gold-dredge tailings, particularly those in the Hammonton area of Yuba County, constitute an immense reserve of sand and gravel and these deposits will probably be utilized in the distant future.

Stone - Stone in the amount of more than \$16.1 million during 1968 contributed significantly to the economics of the Folsom District. Most of the stone is crushed and used as an aggregate although it is used for decorative as well as other uses. Rock suitable for stone uses, particularly crushed stone, occurs widespread throughout the District and these deposits will easily satisfy requirements through 1980. The mining and transportation costs are equally important to the quality of the stone at the time of site selection of a stone pit.

Clays - High quality refractory clays are fairly abundant in the Ione and Lincoln areas of the District. Other lower-grade clays, suitable for low-grade uses, are rather widespread in occurrence throughout the District. Collectively, the clay minerals amounted to more than one-half million in value during 1968. The local economics of the Ione and Lincoln areas are largely dependent upon the clay-mining and beneficiation operations. Reserves of clays generally appear to be satisfactory to meet industrial requirements through 1980.

Salt - The Folsom District is distinguished by the fact that the center of the salt industry in California is located in the San Francisco Bay Area. Smaller salt operations are located in the Monterey area. Salt is a basic raw material in many chemical processes and a multi-billion dollar chemical industry exists only because of the

readily available and cheap supply of salt that is produced in the Bay Area. The high degree of competition for land and the filling in and reclaiming of the tidal lands surrounding San Francisco Bay presents a questionable future for the salt industry in this area, particularly beyond 1980. Supplies of salt can be imported into this area at an increased cost. Increased cost for salt will encourage salt-consuming industries to locate nearer the salt sources of the future.

Magnesium Compounds - Magnesium compounds comprise an important group of chemicals which are derived from sea water and dolomite. Plants producing these compounds are centered in the San Francisco Bay and Monterey areas. Magnesia, the primary magnesian compound, is used in the manufacture of refractories and much of it is shipped to markets in the eastern US. The source of the dolomite in the Folsom District are located in San Benito and Monterey Counties and reserves are more than adequate to supply industrial demands throughout 1980.

Lignite (Coal) - Unique to the Folsom District and the Western World alike is the stratigraphically important montan wax operation in Lone. At this location, lignite coal is mined and a solvent plant recovers various purity grades of montan wax for industrial uses. It is the only montan wax operation in the Western World, the other

being in East Germany. An active exploration program is currently in progress to discover additional lignite coal reserves. It is anticipated that there are or will be sufficient reserves through 1980 to satisfy industrial requirements.

Asbestos - The Copperopolis and Coalinga areas of the Folsom District contribute significant tonnages of asbestos for industrial consumption. Only since 1960 has California had an asbestos industry and this has resulted from increased demands of population and industry. The host rocks that contain asbestos occur rather widespread in this District and an increased future demand will serve as an impetus for further exploration in search of additional asbestos ore bodies. The supply of asbestos in the District will not satisfy the demand of the future and it is believed that even though additional ore bodies may be discovered in the future, a major portion of the asbestos consumption will have to be imported to satisfy the demand.

Peat - The largest reserves of peat in California are located within the Folsom District in the Sacramento-San Joaquin Delta Area. Although the economic importance of peat production is relatively small, its future outlook through 1980 is one of an expanding market.

Feldspar - Feldspar, recovered from beach sands in Monterey County,

are of prime economic significance to the glass and pottery industries of the San Francisco Bay Area. The reserves are sufficient to satisfy demands through 1980. Whether the glass container market is an expanding one through the next decade may depend on certain environmental decisions.

Miscellaneous Non-Metallics - Other non-metallic minerals have been produced in the District although their economic significance has been relatively minimal. These include soapstone, pumicite, gypsum and diatomite.

Metallics:

Gold - Gold, by far the best known metallic mineral of California and the Folsom District alike, had tremendous economic and world-wide ramifications for many years after its discovery. During the last three decades, gold mining has been on the wane for several economic and political reasons. The present day romantic significance of gold in this District is substantial although its direct economic significance is almost non-existent. It has been estimated that up to \$1.0 billion of gold reserves, some of the largest in the nation, are present in the ancestral river gravels within this District. A bonafide total estimate of the lode gold reserves has not been made. Even though such large reserves are known to exist, present economic and other factors prohibit their recovery. If present economic and

other trends continue, the future outlook through 1980 for gold mining is therefore poor.

Mercury - Mercury is currently the most economically significant metallic mineral within this District. California is and has been the source of most of the Mercury produced in the United States and two of the greatest mines, the New Almaden and New Idria, are located within the Folsom District. Since there are no substitutes for mercury, it is therefore an essential mineral commodity for both civilian and military purposes. During times of national emergencies, mercury is considered a strategic material.

Known and indicated reserves of mercury are generally such so as to sustain only a few years of production. However, the current high market price for the commodity has stimulated exploration for new ore bodies. It is hoped that sufficient reserves will be found so as to sustain increased industrial and military demands through 1980. The immediate trend of mercury price though is downward. Environmental pollution by mercury will need to be solved before the trend reverses itself.

Tungsten - Tungsten is another important metallic mineral commodity within this District. It, like mercury, is considered a strategic material during national emergencies. In recent times, the market price has moved upwards and has stimulated exploration and production.

As a result, the economic importance of tungsten in this area is increasing. The possible new discoveries of reserves and subsequent production of tungsten in this District will not be sufficient by far to satisfy the future demands of industry through 1980.

Manganese and Chromite - Manganese and chromite, also strategic materials during national emergencies, have been produced when price supports were in effect. The economic significance of these metals during normal times does not exist.

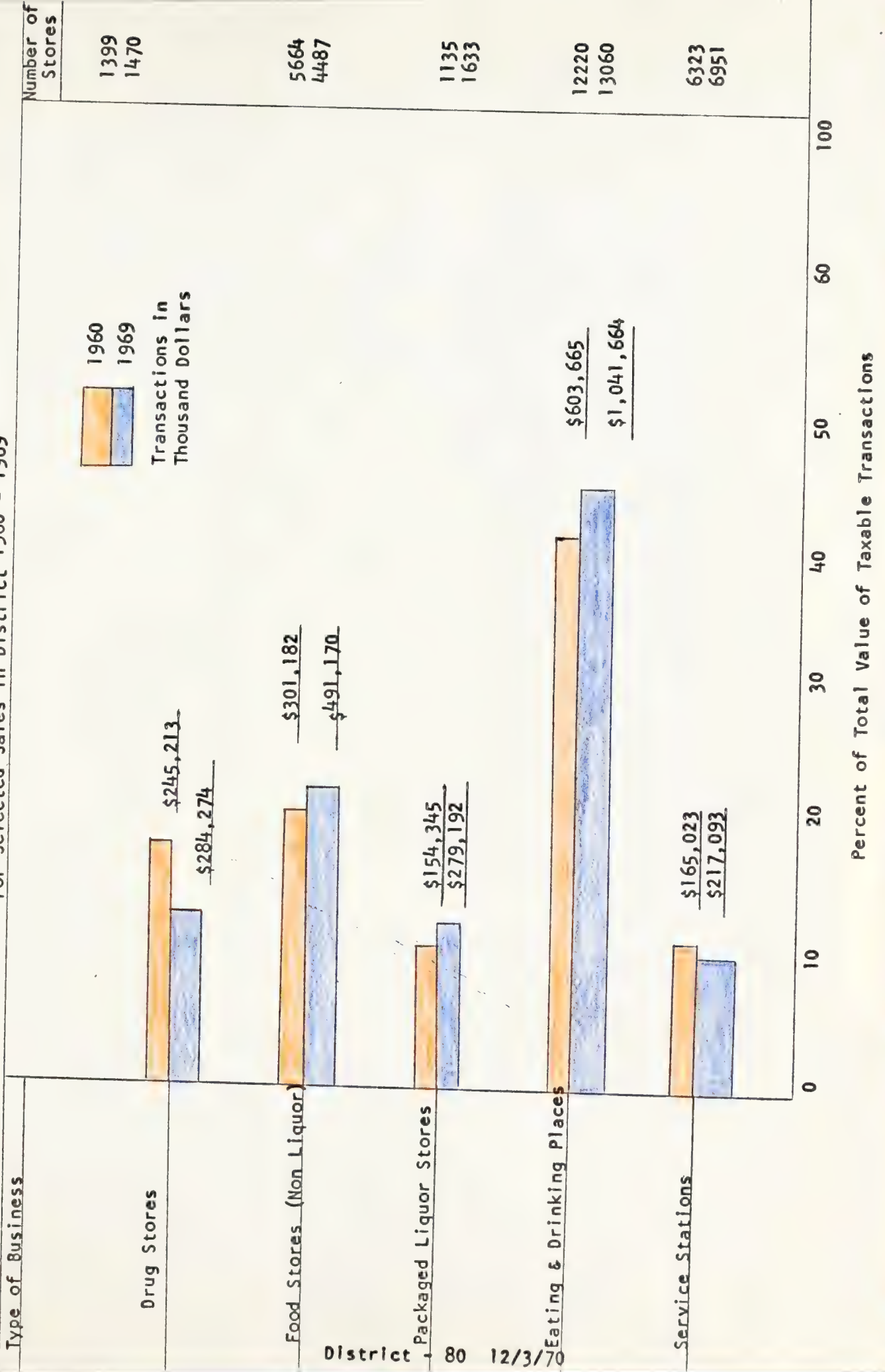
Miscellaneous Metallics - Other metallic minerals produced in recent times include small amounts of silver, lead and platinum. These have been produced as a by-product of gold mining or sand and gravel processing and present no potential for economic significance. Some uranium ore was produced in 1955 but this probably represented an occurrence of no substantial economic substance.

Service industries
including construction

Services Industry:

Sales for selected stores in major lines of retail trade grew larger during the decade. The most pronounced relative gains were in food stores and in eating and drinking places (Illustration 1). The number of establishments on the other hand did not increase substantially. The trend towards larger retail stores in place of the small local stores accounts for this factor. Seventeen percent of the total employment for the District is in the services category.

Illustration 1 Number of Retail Stores and Percentage Taxable Transactions For Selected Sales in District 1960 - 1969



MOTHER LODGE IMPACT
AREA

A. Population: Throughout the years population has fluctuated greatly in the Mother Lode Statistical region. This has been primarily due to the gold mining industry. In the 1880's and 1890's the majority of the counties had a larger population than they did in the forties and fifties. In recent years tourists and a new interest in minerals have reversed this trend to a slow but steady population growth. (1950-1960 30%, 1960-1970 51%, 1970-1980 37%)

In contrast, El Dorado, Placer, and Yuba Counties have increased their population at a rapid rate. Growth between 1950 and 1960 was over 80% for El Dorado County and almost 40% for Placer and Yuba Counties. In El Dorado and Placer Counties this impressive population growth was due mainly to the interest of tourist and leisure residents around lakeshore areas, especially around Lake Tahoe.

The majority of the Mother Lode Area is unincorporated. Only 33% of the total population live in cities. (Table 1) This is a substantially lower figure than the district city living percentage of 72%. The population density of this region was an estimated 27 per square mile as of July 1, 1970. The District density is 205 people per square mile. The Mother Lode density is projected to increase to 37 by 1980, a very minor increase when compared to the district density of 267.

TABLE I

Percentage Distribution of Population by Cities and
Unincorporated Areas

July 1, 1969

<u>County</u>	<u>Unincorporated</u>	<u>Cities</u>
Amador	48%	52%
Calaveras	88%	12%
El Dorado	57%	43%
Mariposa	100%	--
Nevada	73%	27%
Placer	62%	38%
Tuolumne	85%	15%
Yuba	76%	24%
Total	67%	33%

Illustrations 1 through 7 portray the population data for the Mother Lode statistical region. This data was computed from "The California Statistical Abstract," "County California Fact Book 1970" and "California State Chamber of Commerce Economic Survey Series".

Percent Increase
in Population

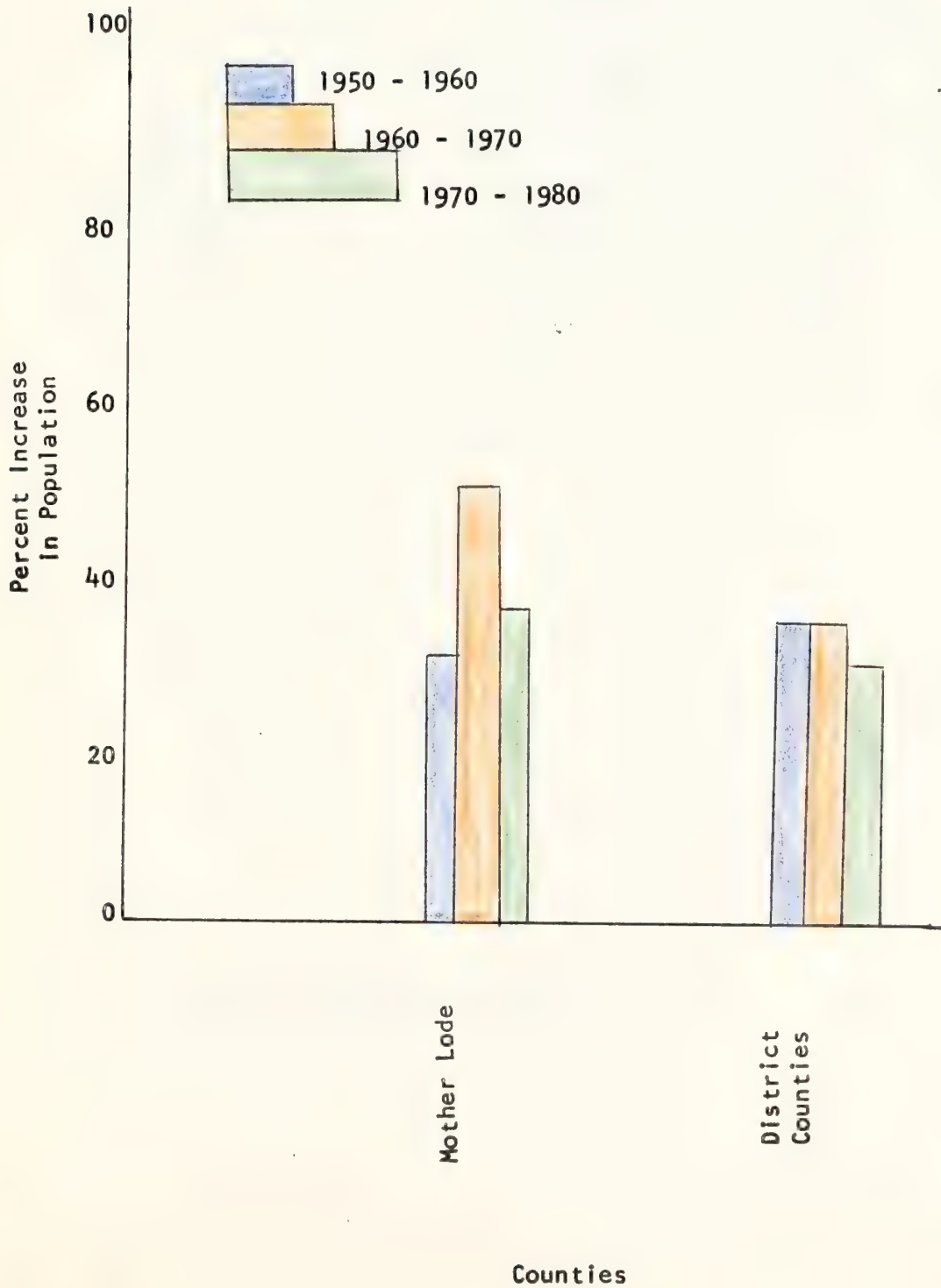
Mother Lode Counties
Population Trend 1950 - 1980

Counties

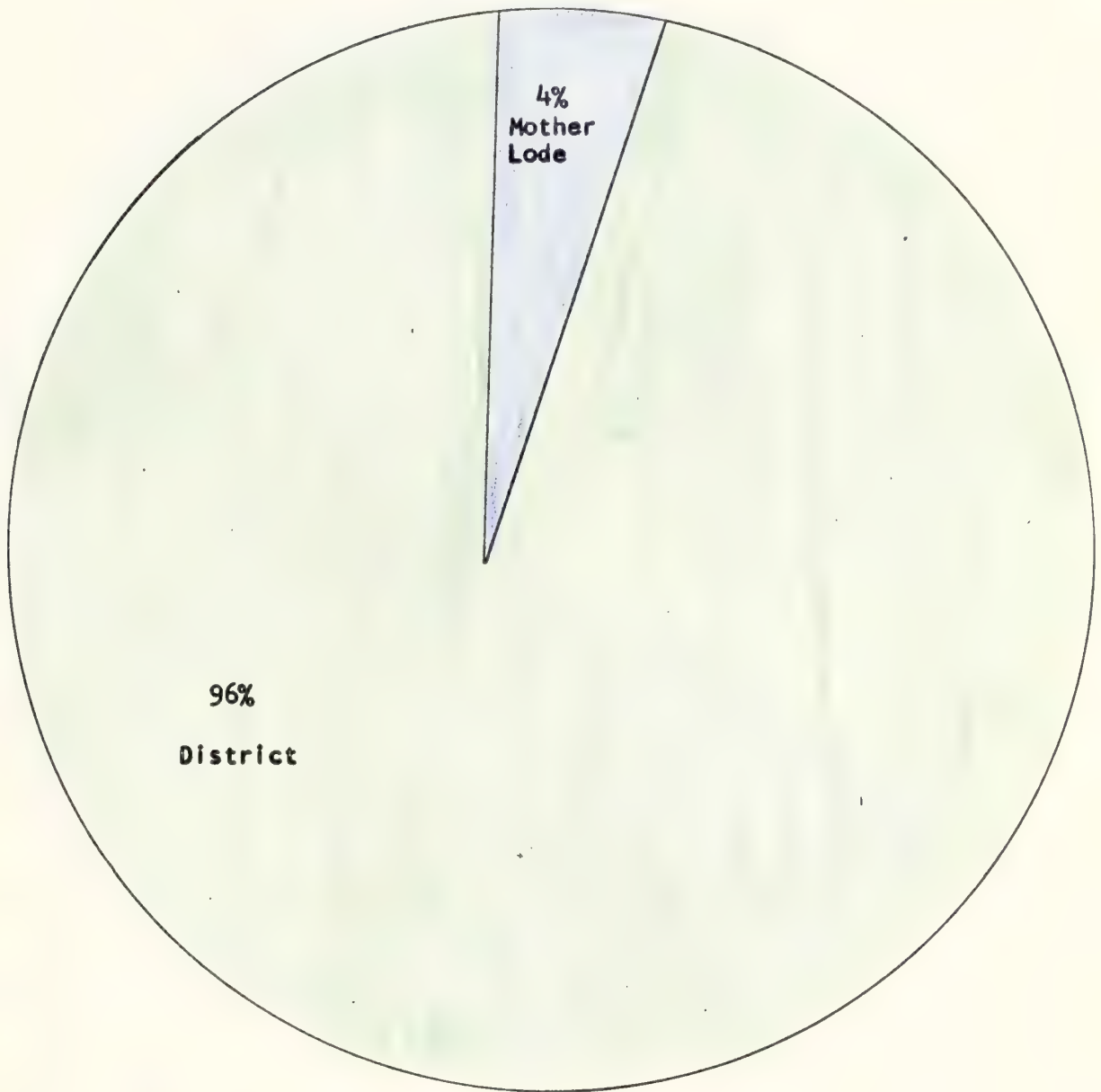


Population Trend

District Compared
to
Mother Lode

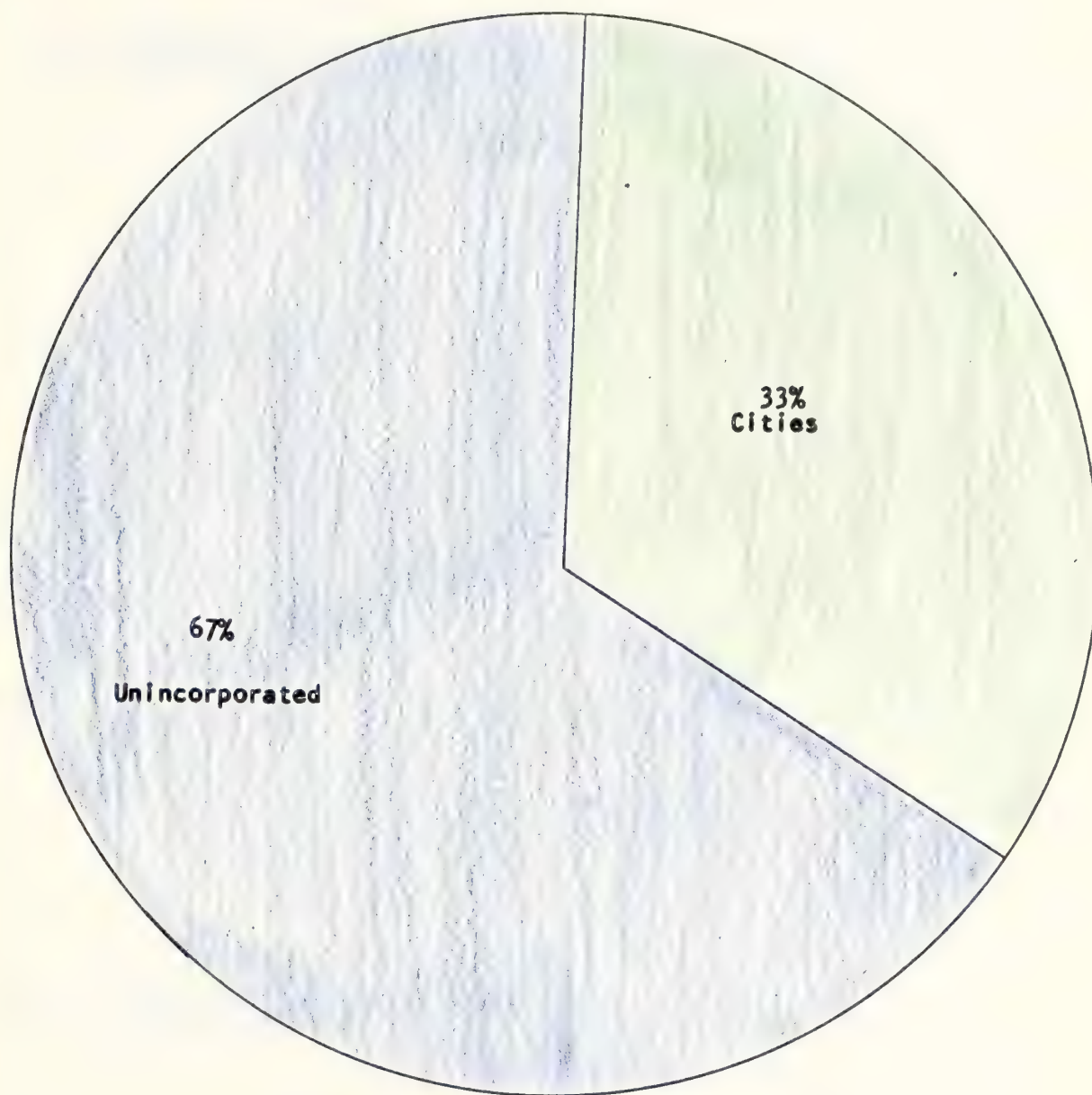


Percentage of District Population
Living in Mother Lode Counties
July 1, 1970

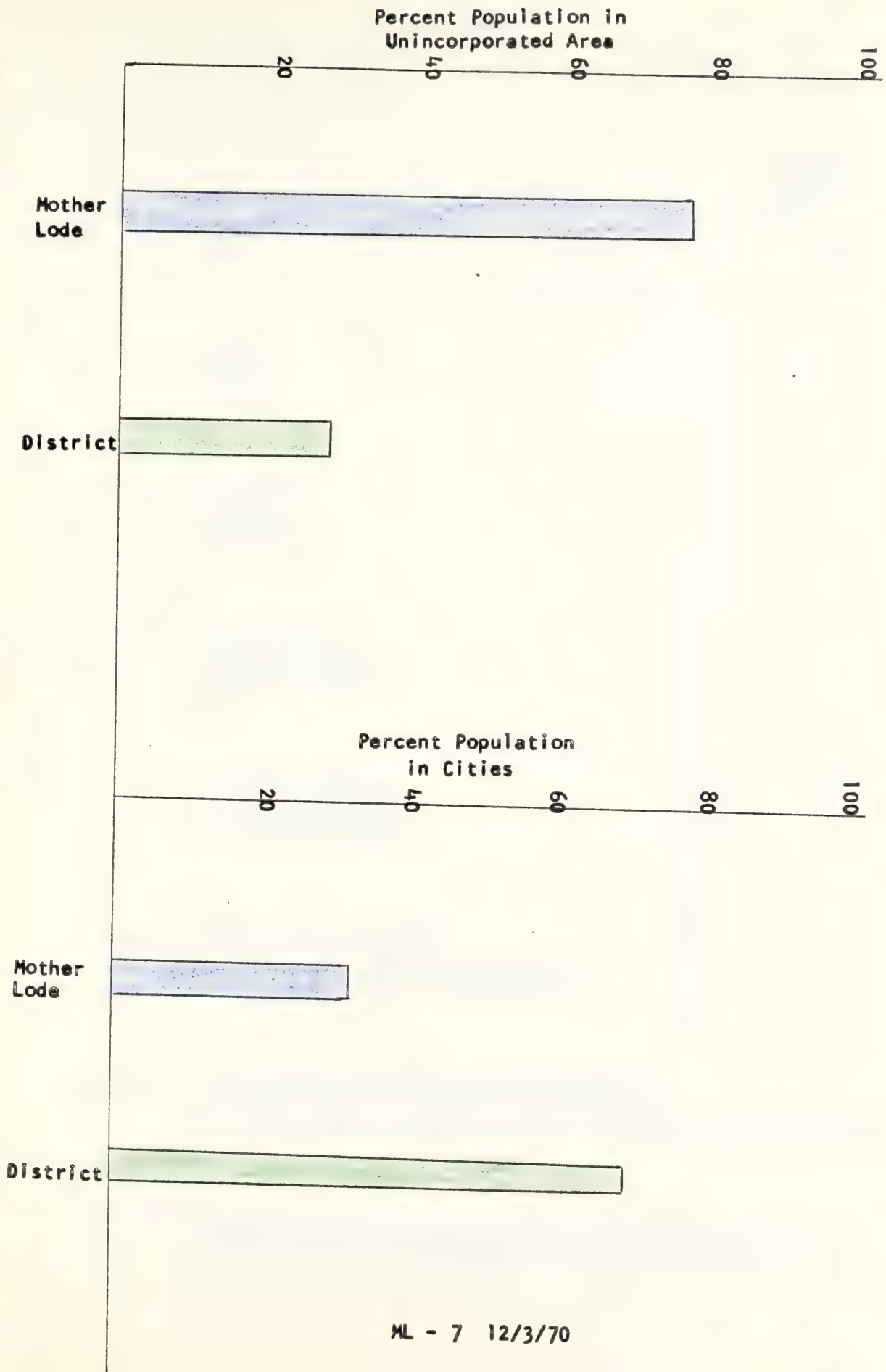


Mother Lode Population 272,600
District Population 6,944,500

Mother Lode Counties
Distribution of Population
July 1, 1970



Distribution of Population
Mother Lode Counties
Compared to District



Population Density
per
Square Mile

Illustration 6

Counties

Mariposa

Tuolumne

Calaveras

Amador

Nevada

El Dorado

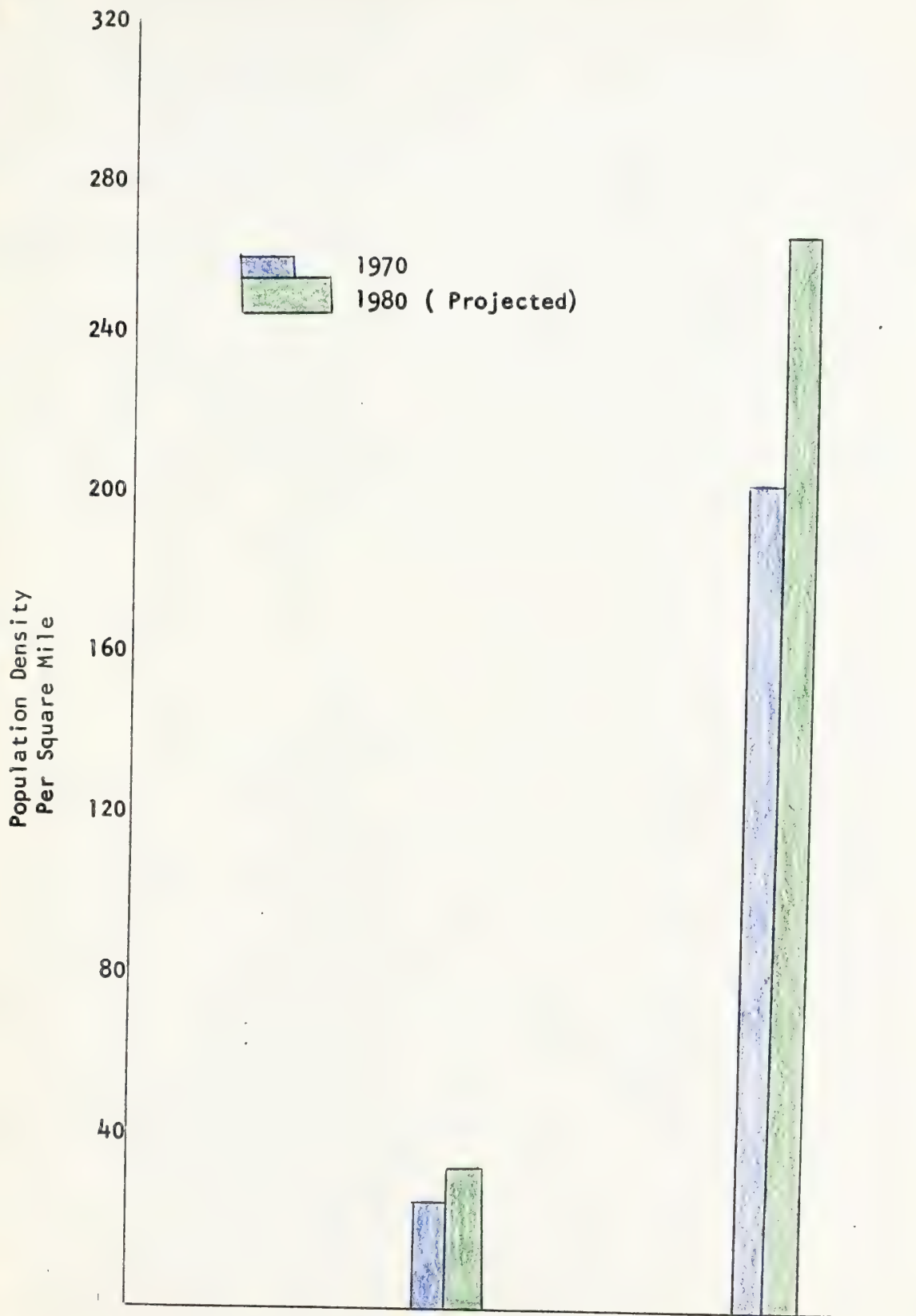
Placer

Yuba

1970
1980 (Projected)

Population Density
per
Square Mile

Density Per Square Mile
District Compared to Mother Lode



Income



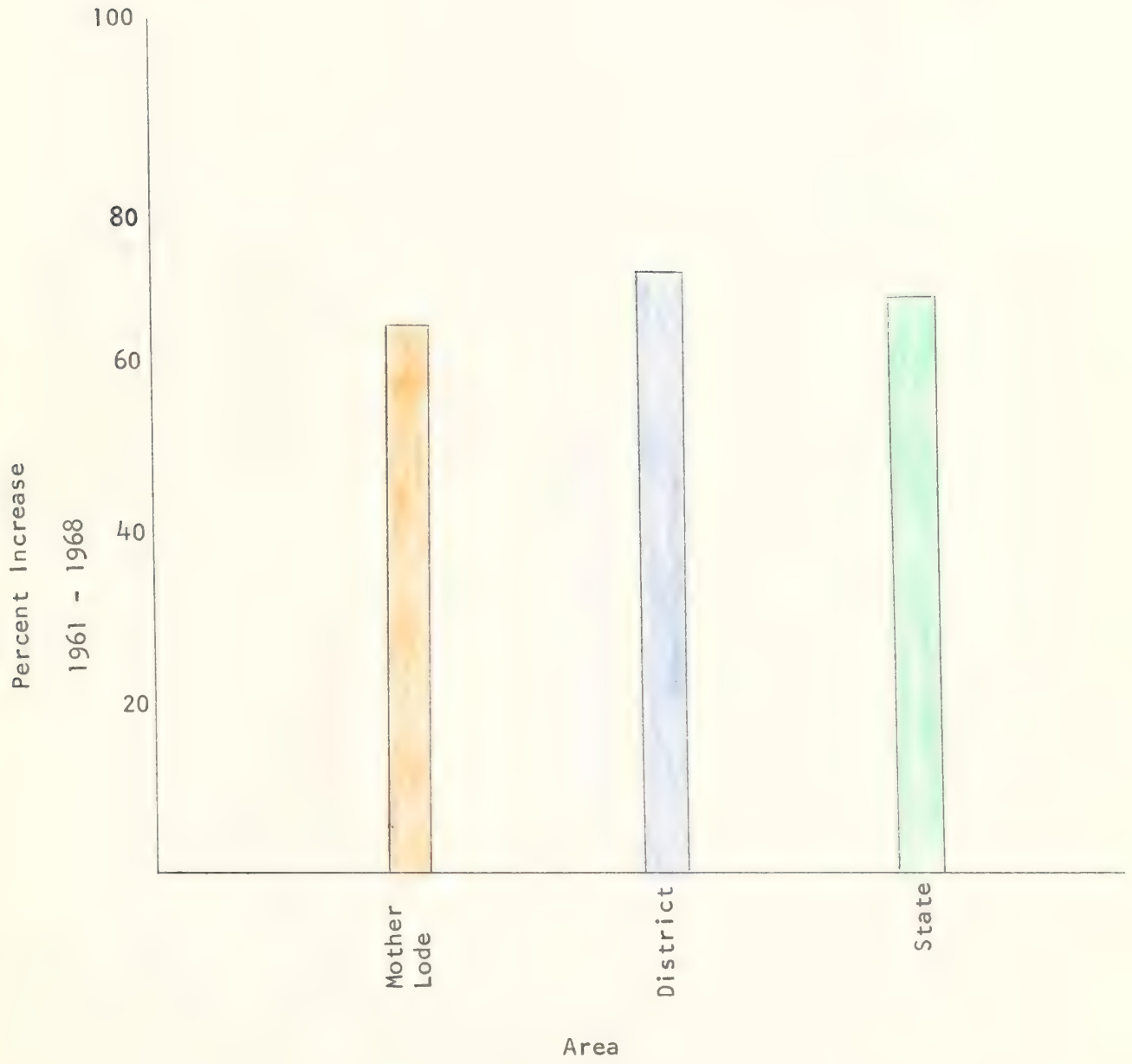
B. Income: Personal income for the Mother Lode County residents was over 725 million dollars for the year 1968. This marked a 64% increase in total personal income for the period of 1961 to 1968 which is comparable to the personal income increases of the State of California (68%) and the counties within the Folsom District (70%) (Illustration 1).

Per capita income increased from 2,370 to 2,945 dollars for residents within the Mother Lode during 1961-1968. In comparison, however, this 24% increase was much lower than the increases within the State of California (40%) or the Folsom District (45%) (Illustration 2).

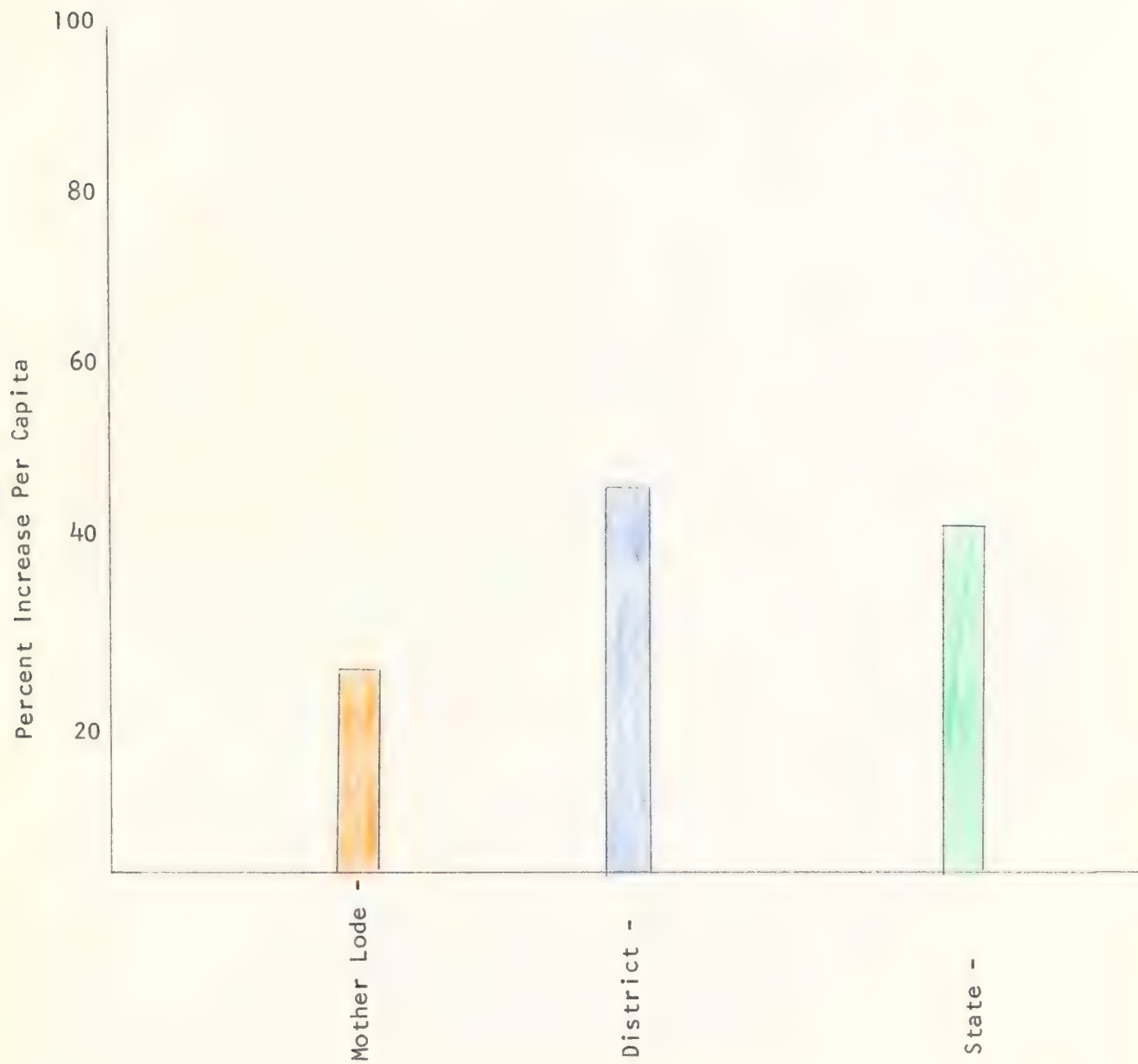
Fifty nine percent of the personal income for the Mother Lode is received in the form of wages and salaries. Receipts from this source amounted to approximately 426 million dollars in 1968. Transfer and property income totaled 26% of all income while proprietors and other labor income totaled 16% for the counties (Illustration 3). Percent of total wages by industry is shown in Illustration 4. As can be seen from this illustration, wholesale and retail trade ranks as the highest industry. On the district level, manufacturing ranks the highest in wages earned.

Personal Income Trend

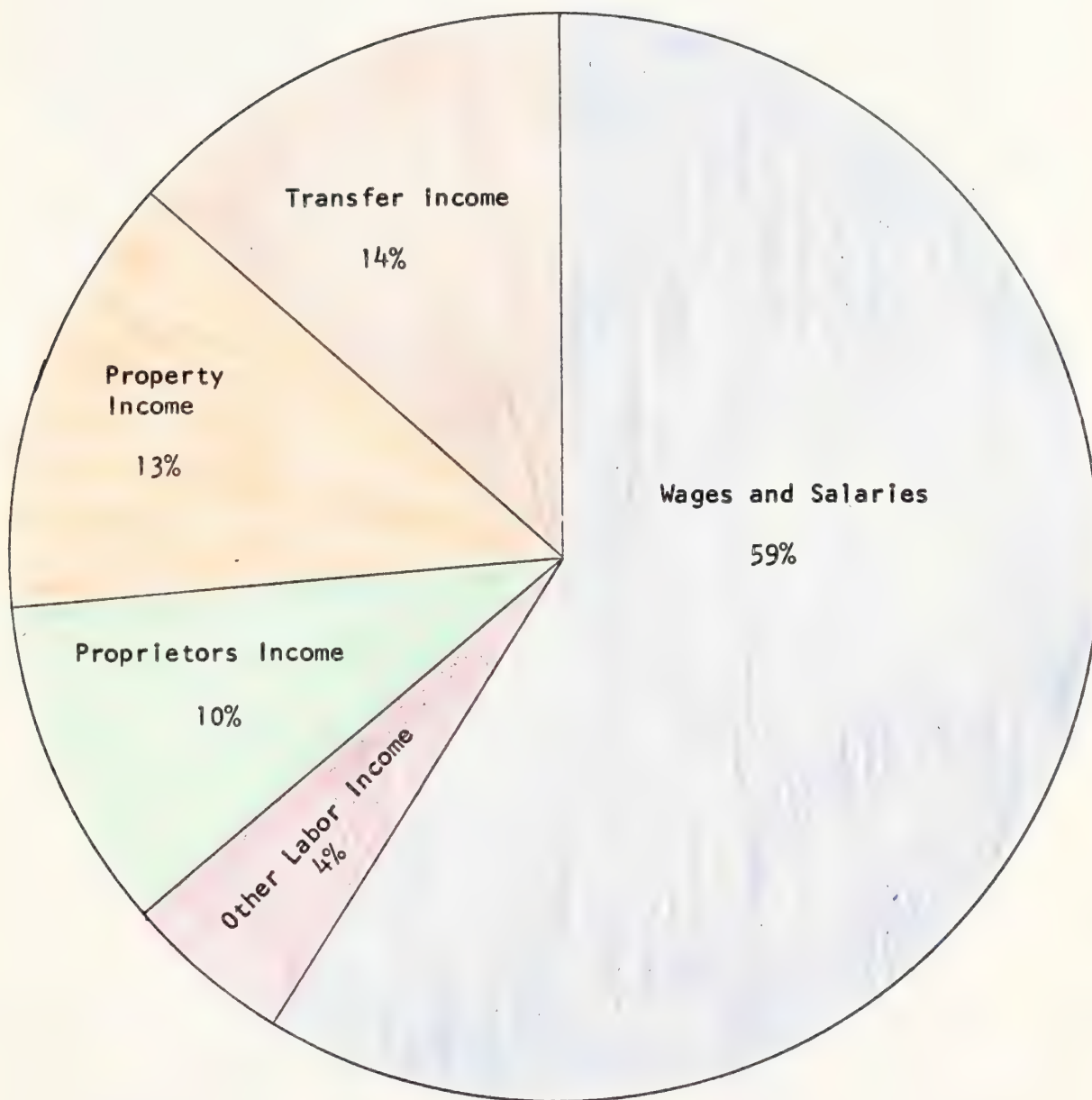
1961 - 1968



Per Capita Increase
(A Trend From 1961 - 1968)



Breakdown of Personal Income
for Mother Lode
By Major Components - 1968



District Breakdown

Wages and Salaries - 63%
Other Labor Income - 3%
Proprietors Income - 10%

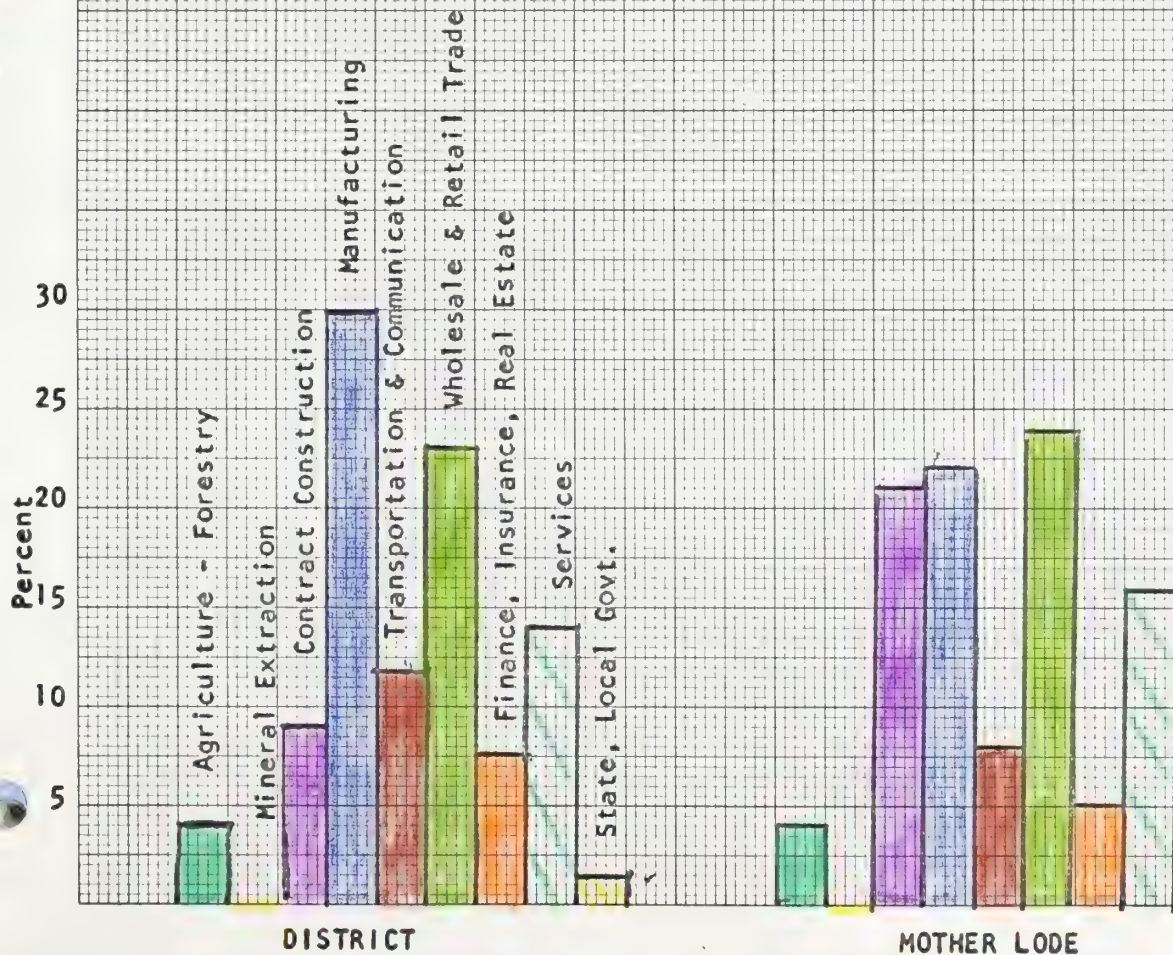
Property Income - 15%
Transfer Income - 9%

Percent of Total Wages by Industry

1968

EUGENE DIETZGEN CO.
MADE IN U. S. A.

NO. 34DE-10 1/2 DIETZGEN GRAPH PAPER
10 X 10 PER HALF INCH



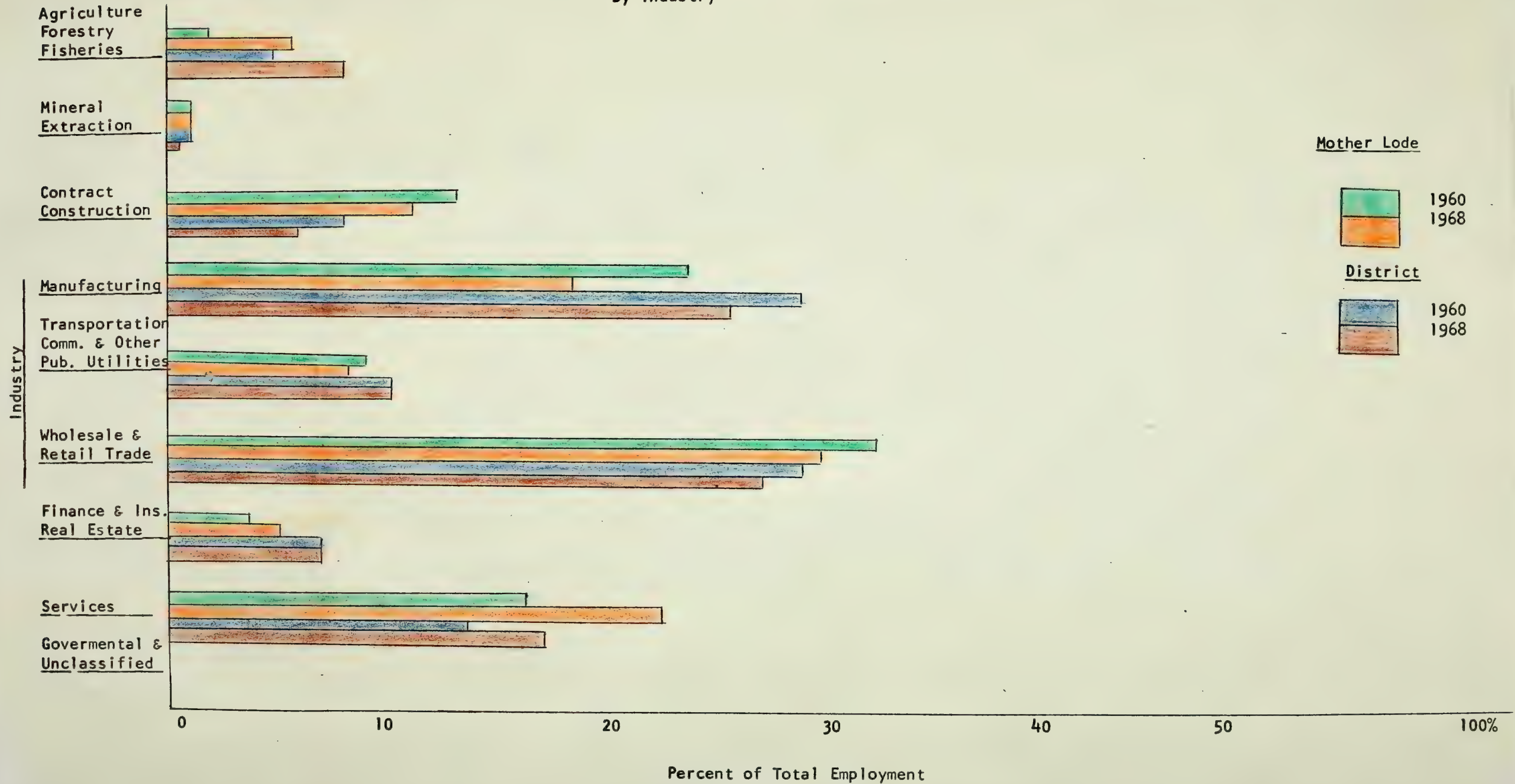
Employment

C. Employment: The Mother Lode Counties civilian labor force averaged 40,771 during 1968, an increase of 11,203 or 38% from 1961. During this period of time (1961 - 1968) the relative growth in the Mother Lode Counties labor force has been comparable to that of the State of California, (40% increase) and the counties within the Folsom District which was 43%.

Wholesale and retail trade is the greatest source of employment within the Mother Lode Counties. During 1968, 29% of all the people employed were in this field. Services ranked second with 26% while manufacturing and contract construction ranked third and fourth respectively (Illustration 1).

Average Monthly Employment

By Industry



Agriculture: Agriculture, according to employment and wages produced, does not rank very high in the Mother Lode statistical region. Although more than one-third of the land is utilized as farm land, very little is actually cultivated (Table 1). Only about 3,300 people are employed in the agricultural industry. This is only 4% of the total employed in this industry in the area considered under the district statistical area. (See Page)

The total agricultural production in 1968 was \$49,411,000 in this region (Table 2). This was again only 4% of the total district agriculture production. (Illustration 1) Table 3 shows the gross value of agriculture production for the major commodities. Livestock and livestock products ranks first, followed by field crops. The value of livestock production in this region is 7% of the total district production. Stock grazing, mainly beef and dairy cattle are the primary livestock pursuits. Livestock and livestock products contributes 40% of the total agricultural production in this region as compared to 21% for the district region.

Livestock Sector: Table 4 shows livestock numbers at five year intervals for the counties in the Mother Lode Statistical region. The trend has been downwards, both in numbers and percent of district total.

TABLE I

Number of Farms, Total Land Area and Land in Farms by County 1964

County	No. of Farms	Total Land Area (Acres)	Land in Farms (Acres)	Cropland Harvested (Acres)	Irrigated Land in Farm (Acres)
Amador	229	379,520	207,089	4,408	3,815
Calaveras	346	657,280	362,644	3,258	4,393
El Dorado	357	1,096,960	197,696	4,432	5,796
Mariposa	218	931,200	306,462	772	1,305
Nevada	350	625,920	197,610	2,644	7,804
Placer	1,126	911,360	248,934	35,375	28,571
Tuolumne	192	1,455,360	168,947	724	2,272
Yuba	<u>640</u>	<u>407,680</u>	<u>317,110</u>	<u>58,680</u>	<u>68,981</u>
TOTAL	3,458	6,465,280	2,006,492	110,293	122,937
STATE TOTAL	80,846	100,206,720	36,996,327	7,837,113	7,590,801
% of total for Mother Lode	4%	6%	5%	1%	2%

TABLE 2

Total Agriculture Production by County and State Ranking
(in thousands of dollars)

County	Total Value		State Ranking	
	1964	1968	1964	1968
Amador	2,611	5,516	50	46
Calaveras	4,827	5,001	46	47
El Dorado	6,617	9,038	45	45
Mariposa *	--	--	--	--
Nevada	1,863	2,404	51	51
Placer	18,195	22,586	36	37
Tuolumne	<u>4,503</u>	<u>4,866</u>	47	48
TOTALS	38,616	49,411		

*Data Unavailable, no county Agricultural Commissioner

% of total value of district

1964 1968
3% 4%

Reference: U.S. Department of Agriculture, Bureau of Agriculture Statistics

TABLE 3

Gross Value of Agriculture Production by Major Commodities

1968 (1,000 Dollars)

<u>County</u>	<u>Field Crops</u>	<u>Seed Crops</u>	<u>Vegetable Crops</u>	<u>Fruit & Nut Crops</u>	<u>Nursery Cut Flowers</u>	<u>Apiary Products</u>	<u>Livestock & Products</u>	<u>Poultry & Products</u>
Amador	1,227	--	137	302	--	--	3,848	--
Calaveras	1,069	--	16	253	5	1	2,438	679
El Dorado	1,222	--	13	4,123	384	--	2,109	1,187
Nevada	616	--	--	209	--	--	725	854
Placer	5,263	--	--	3,820	610	51	7,373	5,469
Tuolumne	<u>727</u>	<u>--</u>	<u>--</u>	<u>121</u>	<u>--</u>	<u>--</u>	<u>2,837</u>	<u>1,164</u>
Total	10,124	--	166	8,828	999	52	19,330	9,353

* Mariposa data not available

TABLE 4

Livestock Distribution California Crop and Livestock Reporting Service

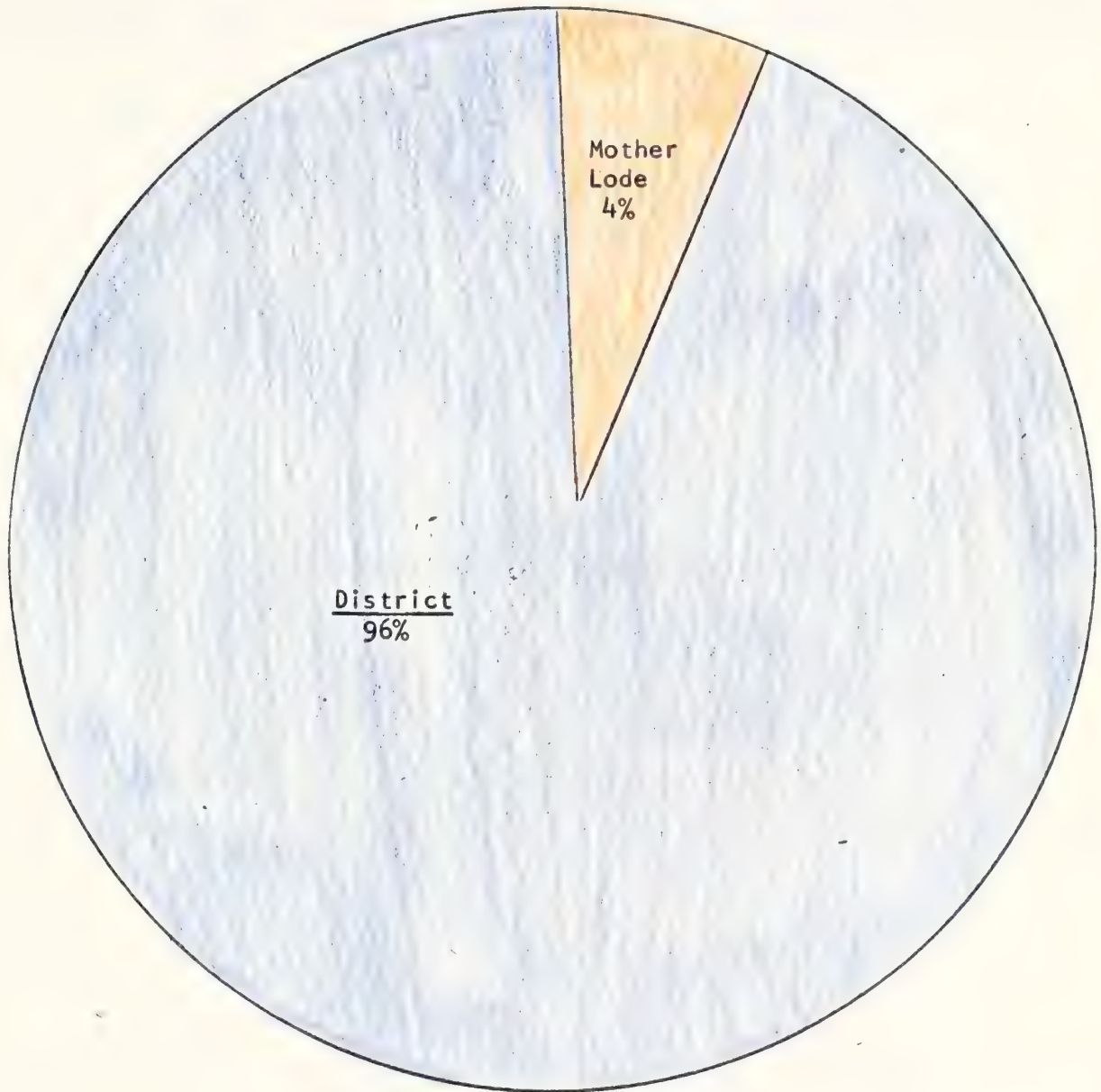
County	1956		1960		1965		1970		% Increase (56-70)	
	Cattle	Sheep	Cattle	Sheep	Cattle	Sheep	Cattle	Sheep	Cattle	Sheep
Amador	15,900	5,700	15,900	5,500	13,000	4,400	20,100	2,300	26%	-60%
Calaveras	25,000	14,400	26,800	13,800	27,200	5,900	31,800	4,800	27%	-67%
El Dorado	12,700	7,500	12,700	7,500	11,300	4,800	12,900	1,800	2%	-76%
Mariposa	20,000	3,300	21,900	3,300	19,000	3,000	20,800	1,000	4%	-70%
Nevada	14,000	10,000	14,700	9,600	13,700	3,500	8,000	3,900	-2%	-61%
Placer	24,400	38,900	29,200	35,900	21,500	14,800	30,800	6,700	26%	-83%
Tuolumne	19,800	1,400	22,100	1,400	15,800	1,500	14,100	1,000	-2%	-21%
TOTAL	131,800	81,200	143,300	47,000	121,500	37,900	138,500	21,500	5%	-74%

District	1956		1970	
	Cattle	Sheep	Cattle	Sheep
	1,158,500	257,800	1,473,900	210,000

% of distribution in
relation to 15 counties
influencing District

11% 31% 9% 10%

Percent Gross Value
Agricultural Production
Mother Lode Compared to
District 1968



Mother Lode Counties
(Thousand Dollars)
49,411

District Counties
(Thousand Dollars)
1,319,750

As shown in Table 4, cattle have increased about 5%. This is low when compared to the district increase of 27%. Sheep in the Mother Lode region have decreased 74% from 1956 to 1970. The average district decrease was only 18% for the same time period.

Table 5 compares this statistical region with the district statistical region for livestock numbers and forage requirements. This data would indicate, as does other data, that livestock production within this region is declining in favor of other industry and is only a small fraction of the total district livestock production industry.

TABLE 5

Livestock Numbers and Forage Requirements

1970

<u>Area</u>	<u># Beef Cattle</u>	<u># Sheep</u>	<u>Total Annual AUM Reqm't</u>
Dist. Counties	1,473,900	210,000	18,190,800
Mother Lode Counties	138,500	21,500	1,713,600
% ML	9	10	9



Forestry

Lumbering is the principal manufacturing activity in the Mother Lode. Forty-five percent of the land within these counties is commercial timber land, much of which contains Ponderosa Pine, Douglas Fir and Cedar. (Table 1 and Illustration 1)

Overall, timber production has increased gradually during recent years, while employment has been declining. For example during the period 1960 - 1968 the overall timber production increased 13% while employment declined 45% (Tables 2 & 3).

TABLE 1

Area of Counties by Major Classes of Lands and by Ownership
Class of Commercial Forest Land, California 1965
(in thousand acres)

County	Total Land Area	F O R E S T L A N D					Non Forest
		Total	Commercial	Public	Private	Commercial	
Amador	380	303	139	44	95	164	77
Calaveras	657	573	244	77	167	329	84
El Dorado	1,097	981	685	326	359	296	116
Mariposa	931	748	293	230	63	455	183
Nevada	626	542	363	132	231	179	84
Placer	911	686	443	212	231	243	225
Tuolumne	1,455	1,145	619	443	176	526	310
Yuba	408	199	116	45	71	83	209
TOTALS	6,465	5,177	2,902	1,509	1,393	2,275	1,288
All Counties	21,657	10,500	4,097	2,304	1,693	6,503	10,156
District % in Mother Lode	30%	49%	71%	65%	82%	35%	13%

TABLE 2

DISTRIBUTION OF LUMBER AND WOOD PRODUCTION EMPLOYMENT BY COUNTY
AND BY PERCENT OF TOTAL COUNTY EMPLOYMENT

County	1960		1965		1968	
	Employees	Percent	Employees	Percent	Employees	Percent
Amador	582	1.7	(d)		625	1.7
Calaveras	717 *	1.9	375	1.0	200	0.5
El Dorado	1,072	11.8	700	6.4	725	6.1
Mariposa	120	6.8	25	1.1	0	0.0
Nevada	678	11.9	400	6.4	325	4.7
Placer	761	4.3	(d)		(d)	
Tuolumne	980	20	875	15.5	825	12.5
Yuba	--	--	--	--	--	--
TOTALS	4,910	17%	2,375		2,700	7%
Total within District	19,882		(e)		(e)	
% Within Mother Lode	25%					

* Includes lumber and furniture manufacturing

(d) Omitted to avoid disclosure of confidential information

(e) Data not available

TABLE 3
TIMBER PRODUCTION 1960, 1965, 1968
(MBF)

	No. of Operators			Veneer Logs & Saw Logs			Pulp Wood			Misc. MBM			Total MBM		
	1960	1965	1968	1960	1965	1968	1960	1965	1968	1960	1965	1968	1960	1965	1968
Amador	11	12	15	15,902	40,782	25,390	--	--	--	276	32	15	16,178	40,814	25,405
Calaveras	34	17	15	74,095	75,099	85,072	--	--	--	93	--	65	74,188	75,099	85,137
El Dorado	62	87	69	336,593	199,665	210,272	--	--	--	231	303	154	336,824	199,995	210,426
Mariposa	22	11	7	18,134	8,320	1,180	--	--	--	459	86	8	18,593	8,406	1,188
Nevada	91	68	71	62,805	53,765	72,509	1,369	--	--	268	1,221	1,226	64,442	54,986	73,735
Placer	56	60	44	73,090	95,913	95,046	1,000	--	--	193	64	225	24,283	95,977	95,271
Tuolumne	24	23	23	74,055	145,539	188,952	--	--	--	131	56	60	74,186	145,595	189,012
Yuba	<u>25</u>	<u>16</u>	<u>10</u>	<u>34,647</u>	<u>48,427</u>	<u>48,444</u>	<u>--</u>	<u>1,463</u>	<u>--</u>	<u>853</u>	<u>238</u>	<u>489</u>	<u>36,500</u>	<u>50,128</u>	<u>48,933</u>
TOTAL	325	294	255	689,321	667,510	726,865	2,369	1,463	--	2,504	2,000	2,242	645,194	671,000	729,107
District	449	387	333	863,906	847,914	948,389	8,243	6,173	3,832	4,712	3,023	4,236	827,862	856,637	956,457
% within Mother Lode	72%	76%	77%	80%	79%	77%	29%	24%	0%	53%	66%	53%	78%	78%	76%

Recreation and Tourism

Recreation and Tourism

As shown in the employment and income sections, the business sectors which serve this industry are increasing in value and quantity. Recreation and tourism is probably the most important industry in the Mother Lode Statistical region. It is a difficult one though to obtain data for. What data is available will be presented and will be refined as additional data is obtained.

Two state designated tourism areas cover this region. They are the Tahoe and North San Joaquin areas. Table 1 shows the number of visitors for these areas in 1966. This region had 16% of the total number of district visitors.

TABLE 1

Distribution of California Resident and
Out-of-State Visitors
(1,000's) 1966

<u>Visitor Source</u>	<u>Visitors</u>		<u>Total</u>
	<u>Tahoe</u>	<u>North San Joaquin</u>	
Residents			
Day Trips	475	1,780	2,255
Overnight	1,700	2,100	3,800
Out-of-State	<u>940</u>	<u>1,105</u>	<u>2,045</u>
Total Visitors	3,115	4,985	8,100

District Total - 51,550,000 Visitors
Region Total - 8,100,000 Visitors
Mother Lode % of District - 16%

Hunting: Deer hunting is a very popular form of recreation within the Mother Lode statistical region. There is a total of 2,912,510 acres of deer range in this region. This is 61% of the total district deer range. Based on averages for 1960-1969, 398,259 hunter days per year are expended in the Mother Lode region. This is 69% of the total hunter days expended per year in the district.

These figures indicate the importance and magnitude of deer hunting within the Mother Lode region. Upland game hunting also occurs, but the number participating in this sport are unknown.

Mining

The Mother Lode counties originated because of gold mining. Around the turn of the century millions of dollars were taken yearly in gold from these counties. Today gold is still mined but its quantity is only negligible. Sand and gravel, clays and stone are now leading minerals. (Table 1).

Mineral production in this region has declined by 19% since 1965 (Table 2), while district wide the decline was only 2%. This regions share of the district production total has also declined from 10% in 1965 to 8% in 1968 (Table 2) Only 1% of the employment is in the mineral industry.

TABLE 1
MINERALS PRODUCED IN 1968 IN ORDER OF VALUE

Amador County

1. Sand and Gravel
2. Clays
3. Coal (lignite)
4. Soapstone
5. Gold
6. Silver
7. Stone

Calaveras County

1. Cement
2. Asbestos
3. Stone
4. Clays
5. Sand and Gravel

El Dorado County

1. Stone
2. Lime
3. Sand and Gravel
4. Soapstone
5. Gold
6. Silver

Mariposa County

1. Sand and Gravel
2. Stone
3. Gold
4. Silver

Nevada County

1. Sand and Gravel
2. Stone
3. Gold
4. Silver

Placer County

1. Sand and Gravel
2. Clays
3. Stone
4. Gold

Tuolumne County

1. Stone
2. Lime
3. Gold

Yuba County

1. Sand and Gravel
2. Gold
3. Stone
4. Clays
5. Platinum

TABLE 2
TOTAL MINERAL PRODUCTION
1965 and 1968 (\$1,000)

<u>County</u>	<u>1965</u>	<u>1968</u>	<u>% Difference</u>
Amador	3,060	3,394	11%
Calaveras	18,128	14,558	-20%
El Dorado	2,617	2,490	-5%
Mariposa	141	161	14%
Nevada	799	739	-8%
Placer	1,190	958	-19%
Tuolumne	1,678	1,216	-28%
Yuba	<u>3,392</u>	<u>1,525</u>	<u>-55%</u>
TOTAL	31,005	25,041	-19%
District Total	\$305,562	\$300,658	-2%
Mother Lode % of District	10%	8%	

Service industries
including construction



Service Industry

The service industries employ 26% of the total work force in the Mother Lode statistical region. This compares to 17% on the district level.

Sales for selected types of services grew larger during the period of 1960 to 1969. (Table 1) The percentage increase for these selected services was 66%. The increase for the same services on a district basis was only 57%. (Table 2)

TABLE 1

Taxable Transactions for Selected Services
Mother Lode Statistical Region
(\$1,000's)

<u>Service</u>	<u>1960</u>	<u>% of Total</u>	<u>1969</u>	<u>% of Total</u>
Drug Stores	\$ 6,918	10%	\$ 7,474	7%
Food Stores	19,904	30%	39,118	36%
Liquor Stores	3,687	6%	6,085	6%
Eating & Drinking Places	24,769	37%	45,606	41%
Service Stations	<u>10,967</u>	<u>16%</u>	<u>11,687</u>	<u>11%</u>
Total	\$66,245		\$109,970	

TABLE 2
% Change - Selected Services
1960 - 1968

<u>Services</u>	District		Mother Lode Counties	
	<u>No. of Stores</u>	<u>- Taxable Transactions</u>	<u>No. of Stores</u>	<u>Taxable Transactions</u>
Drug Stores	5%	15%	19%	8%
Food Stores	-21%	63%	10%	97%
Packaged Liquor Stores	44%	80%	13%	65%
Eating & Drinking Places	7%	83%	5%	84%
Service Stations	<u>10%</u>	<u>31%</u>	<u>3%</u>	<u>7%</u>
Total Increase or Decrease	32%	57%	2%	66%

The largest gains as seen in Table 1, in percentage of taxable transactions occurred in food stores and eating and drinking places. The number of establishments did not increase substantially. (Table 3)

TABLE 3
Number of Stores for Selected Services
Mother Lode Region

<u>Services</u>	Number of Stores	
	<u>1960</u>	<u>1969</u>
Drug Stores	57	68
Food Stores	369	331
Liquor Stores	52	59
Eating, Drinking Places	866	912
Service Stations	473	489

Resource Products
and Land Uses



Livestock Feed

As shown in other sections of this economic profile, livestock production is not as important an industry today in the Mother Lode region as it has been in the past. This decline in importance is likely to continue in the future.

Grazing leases have shown the same general decline for the Mother Lode region as for the entire district. There are 106,088 acres currently under 120 Section 15 leases in this region. These leases supply an estimated 10,581 AUM's or only 30% of the total AUM's supplied by BLM district lands.

Table 1 compares livestock numbers and forage on BLM lands in this region to the district statistical region.

TABLE 1

Livestock Numbers and Forage Consumption on BLM Lands

1970

<u>Area</u>	<u>No. Beef Cattle</u>	<u>No. Sheep</u>	<u>Licensed AUM's</u>	<u>Annual 1/ AUM's Reqmt.</u>	<u>% Supp. By BLM</u>
District	37,388	51,470	35,488	451,444	8
Mother Lode	8,764	1,297	10,581	95,192	11
% ML	23	2	30		

1/ Total AUM's required by cattle grazed on BLM land.

This table shows that of the total livestock grazed on BLM lands in the district, 23% of the cattle and 2% of the sheep are found in the Mother Lode statistical area. On a district basis, the licensed use supplies only 8% of the total required AUM's for the livestock grazed and in the Mother Lode the percent is 11. The total livestock feed requirement for the Mother Lode region is 1,713,600 AUM's. BLM supplies only .6%, this compares to .2% on a district basis. Dependency on BLM forage is low.

Table 2 shows the dependency of the operator on the forage he leases from BLM on a county basis.

TABLE 2
Forage Dependency ^{1/} by County
1970

<u>County</u>	<u>Dependency</u>
Amador	9%
Calaveras	16%
El Dorado	11%
Mariposa	10%
Nevada	10%
Placer	9%
Tuolumne	10%
Total Average	11%

^{1/} Licensed grazing use compared to the operators total feed reqmts.

TABLE 3
Grazing Leases
Nov. 1970

<u>County</u>	<u>Leassee</u>	<u>Licensed AUM's</u>	<u>Total AUM Reqd.</u>	<u>% Dep.</u>	<u>Acres</u>
Amador	B.F.B. Co.	2	48	4	40
	Cuneo Brothers	75	960	8	598
	Andrew Digitale	14	1800	1	47
	K.W. Joses	8	960	1	40
	Henry Lent	365	2400	15	1280
	Edwin Oneto	70	900	8	706
	Frank & James Oneto	24	360	7	80
	Ken Pickering	160	960	17	335
	Donald Tarbell	22	96	23	200
Calaveras	J.R. Blomenkamp	23	72	32	80
	Basse & Sons	31	1200	2	274
	Chris-X-Cross Ranch	2	60	3	21
	Carl Dell'Orto	43	36	100	909
	Curtis Dunlap	71	240	30	1065
	R.E. Dunlap	90	252	36	310
	J.E. Fischer	95	120	79	479
	R.W. Gibson	31	408	8	460
	W.G. Gollien	8	120	7	80
	Hertlein Ranch	81	492	16	488

TABLE 3 (Cont'd)
Grazing Leases
Nov. 1970

<u>County</u>	<u>Lessee</u>	<u>Licensed AUM's</u>	<u>Total AUM Reqd.</u>	<u>% Dep.</u>	<u>Acres</u>
Calaveras	G.B. Hawver	97	600	16	974
	Max Henley	22	300	7	120
	S.L. Higgins	38	936	4	767
	Eldred Lane	194	1320	15	697
	Mitchell Ranchos Inc.	75	540	14	589
	F.G. Oneto	14	996	1	83
	Mervin Porteous	14	216	6	100
	J.E. Rader	126	516	24	1256
	Red House Ranching	142	600	24	1725
	F.M. Seeman	42	360	12	169
	C.C. Sherwood	49	792	6	294
	W.C. Sinclair	13	600	2	160
	W.R. Speare	346	396	87	2879
	D.R. Whittle	280	1200	23	840
	Theodore Wooster	232	1200	19	3260
El Dorado	Byron Bacchi	26	600	4	135
	T.L. Baker	71	600	12	160
	H.H. Farnham	57	1200	5	285
	Ralph Fernandez	25	180	14	160

TABLE 3 (Cont'd)
Grazing Leases
Nov. 1970

<u>County</u>	<u>Lessee</u>	<u>Licensed AUM's</u>	<u>Total AUM Reqd.</u>	<u>% Dep.</u>	<u>Acres</u>
El Dorado	A.L. Kuntz	15	180	8	120
	Raymond Lawyer	10	60	17	50
	Stanley Lovejoy	27	180	15	160
	Mark Mace	5	48	10	25
	Albertus Nobell	48	120	40	240
	Frank Oulicky	51	1500	3	383
	M.W. Reed	60	300	20	240
	Joseph Rishwain	216	600	36	1399
	Philip Selznick	49	480	10	160
	Milton Wiener	20	72	28	120
Mariposa	Thomas Brown	74	600	12	475
	Carlene Cordell	37	216	17	73
	Dogtown Properties	82	960	8	440
	Robert Dunn	26	1200	2	160
	T.E. Durfee	37	624	6	401
	Richard Fox	31	288	11	1600
	Nick Giusto	508	3600	14	8381
	A.W. Haigh	1076	2100	51	6339
	James Hawksworth	35	276	13	165

TABLE 3 (Cont'd)
Grazing Leases

Nov. 1970

<u>County</u>	<u>Lessee</u>	<u>Licensed AUM's</u>	<u>Total AUM Reqd.</u>	<u>% Dep.</u>	<u>Acres</u>
Mariposa	R.K. Lind	171	2784	6	2855
	Eugene McGregor	480	7200	7	8165
	Horace Meyer	624	11040	6	9899
	Meyer & Shilling	467	6000	8	12201
	E.G. Pierson	24	36	67	44
	Russell Rolfe	15	1800	1	72
	Elmer & Clarence Silvera	78	384	20	566
	Theresa Stenbridge	186	1200	16	774
	Joe Trabucco	125	1200	10	2329
	James Turpin	377	360	100	990
	Philip Bibber	5	12	42	32
	Charles Worley	10	144	7	480
	Elsie Visser	109	1200	9	1566
Nevada	Frank Bigelow	86	180	48	107
	L.F. Dudley	4	1200		43
	Felix Karrer	105	372	28	347
	Charlie McMurdo	22	120	18	240
	Albert Madero	2	60	3	13
	O.G. Milhous	21	240	9	84

TABLE 3 (Cont'd)
Grazing Leases
Nov. 1970

<u>County</u>	<u>Lessee</u>	<u>Licensed AUM's</u>	<u>Total AUM Reqd.</u>	<u>% Dep.</u>	<u>Acres</u>
Nevada	W & C Moore	1	96	1	5
	L.S. Orr	1	48	2	1
	F.M. Smith	26	660	4	77
	Wilbur Welker	13	24	54	45
	Oliver Wentz	20	300	6	292
	J.H. White	38	120	32	282
	Clifford Young	8	144	6	59
Placer	H.E. Hawkins	1	36	3	3
	E. Mac Fadden	16	144	11	120
Tuolumne	Joe Anker	8	600	1	78
	Warren Appling	73	120	61	1178
	P.V. Bennett	24	300	8	275
	H.W. Blank	188	480	39	1315
	F.M. Brunette	180	600	30	1270
	E.V. Burgson	38	60	63	220
	E. Burgson & Chiorso	104	600	17	943
	Claude Canter	13	360	4	36
	H.J. Coffill	35	600	6	260
	Guido & Crenna	135	480	28	1230

TABLE 3 (Cont'd)

Grazing Leases

Nov. 1970

<u>County</u>	<u>Lessee</u>	<u>Licensed AUM's</u>	<u>Total AUM Reqd.</u>	<u>% Dep.</u>	<u>Acres</u>
Tuolumne	W.G. Crook	65	360	18	838
	R.H. Crow	60	48	100	502
	Eugeno Dabadie	57	1800	3	820
	F.R. Egan	35	600	6	280
	V & M Filiberti	86	480	18	751
	J.R. Fraguero	90	180	50	3070
	Jack Gardella	160	600	27	1062
	Clair Cromwell	48	296	16	359
	William Gookin	71	1560	4	1306
	K.H. Graham	30	180	16	402
	Phil Hope	30	600	5	145
	E.A. Kent	5	228	2	80
	R.H. Kistler	27	600	4	160
	M.L. Price	36	2400	2	80
	L.J. Maddox	10	960	1	60
	B. Gianelli	50	720	7	640
	E.A. Rosasco	18	96	19	170
	Dan Schmierer	4	96	4	45
	W.H. Segale	18	240	8	505

TABLE 3 (Contd)

Grazing Leases

Nov. 1970

<u>County</u>	<u>Lessee</u>	<u>Licensed AUM's</u>	<u>Total AUM Reqd.</u>	<u>% Dep.</u>	<u>Acres</u>
Tuolumne	Helen Stewart	55	432	13	635
	W.A. Welch	70	840	8	910
	J.S. Williams	7	288	2	190
	Ruth Woodhams	90	384	23	358
	Maxie Woolstenhulme	51	1380	4	699
	Sunnyside Ranch	90	480	19	449
		10,581	95,192	11	

The following computations develop additional dependency factors and monetary value of BLM's forage.

Dependency of Livestock Industry on BLM Forage (A1)

$$A1 = \frac{\text{Licensed grazing on public lands}}{\text{Total livestock feed requirements.}}$$

$$A1 = \frac{10,581}{1,713,600} = .006 \text{ or } 6\% \text{ dependency of Mother Lode statistical region livestock industry on BLM forage.}$$

Dependency of Local Community on BLM Forage (A2)

$$A2 = A1 \times A3 \times A4 \times A5$$

$$A3 = \frac{\text{Value of livestock products sold}}{\text{Value of all agricultural products sold}}$$

$$A3 = \frac{\$19,330,000}{\$49,411,000} = .391$$

$$A4 = \frac{\text{Personal income in agricultural sector}}{\text{Total personal income in community}}$$

$$A4 = \frac{\$3,605,179}{\$548,752,000} = .006$$

$$A5 = \text{Income multiplier} = 2.0$$

$$A2 = A1 (.006) \times A3 (.391) \times A4 (.006) \times A5 (2.0)$$

$$A2 = .00003 \text{ or } .003\% \text{ dependency of Mother Lode statistical region on BLM forage.}$$

Total Monetary Value of BLM Forage to Mother Lode Statistical Region (a1)

$$a1 = a3 \times a4 \times a5$$

a3 = Personal income in livestock industry

$$= \frac{\text{Value of livestock products sold} \times \text{Total agricultural personal income}}{\text{Value of all agricultural products sold}}$$

$$a3 = \frac{\$19,330,000 \times \$3,605,179}{\$49,411,000} = \underline{\$1,409,625}$$

$$a4 = \frac{\text{Licensed grazing use on public lands}}{\text{Total livestock feed requirements}}$$

$$a4 = \frac{10,581}{1,713,600} = \underline{.006}$$

$$a5 = \text{Income multiplier} = \underline{2.0}$$

$$a1 = a3 (\$1,409,625) \times a4 (.006) \times a5 (2.0)$$

a1 = \$16,916 monetary value of BLM forage to the Mother Lode statistical region.

Unit Monetary Value of BLM Forage to Mother Lode Region (a2)

$$a2 = \frac{a1}{\text{Licensed grazing use on public lands}}$$

$$a2 = \frac{\$16,916}{10,581} = \$1.60 \text{ unit monetary value of BLM forage in the Mother Lode region.}$$

Benchmark Projections:

Present Situation	Total	BLM
Production (AUM's)	Unknown	10,581
Consumption (AUM's)	1,713,600 ^{1/}	10,581
Needs	Unknown	Minus ^{3/}

Projection to 1980

Consumption	1,735,596 ^{1/}	10,716 ^{2/}
Needs	Unknown	Minus ^{3/}

1/ Based on total number of cattle and sheep in the Mother Lode region.

2/ Based on same % as in 1970.

3/ Actual need of or demand for BLM forage is less than produced.



Saw Timber

All of the saw timber produced by BLM in the Folsom District is produced in the Mother Lode region. The current annual allowable cut is 7 million board feet. Table 1 shows the timber sales and value for fiscal year 1961 through fiscal year 1970. An average of 7,020 million board feet have been produced by BLM lands. All of this production was in veneer logs and saw logs. As shown in Table 2, the total timber production in the Mother Lode Region in 1968 was 729,107 million board feet. Therefore BLM supplied only 1.0% of the total timber produced in the region. As shown in Table 3 only 1.3% of the commercial forest land located in this region is under BLM's administration. In analyzing the sales and buyers, no one buyer or mill has received enough timber on a regular basis to indicate any type of dependency on BLM timber.

The following computations develop additional dependency and monetary value figures for BLM's timber resource in this statistical region. Table 4 gives the values needed in the computations.

Dependency of Lumber Industry on BLM Timber (BI)

$$BI = \frac{\text{Annual BLM Timber Sales}}{\text{Total Timber Sales}}$$

TABLE 1

Folsom District Timber Sales FY 1961 - 1970

FY	YEAR	MBF	Volume	\$	Value	County of Origin
	1961		1,196		15,371	Nevada
			2,230		24,110	Calaveras
			27		514	El Dorado
			<u>2,141</u>		<u>45,670</u>	Placer
			5,594		85,665	
	1962		1,362		11,963	Placer
			768		3,699	El Dorado
			435		1,858	Amador
			1,366		29,025	Calaveras
			<u>732</u>		<u>6,501</u>	Nevada
			4,663		53,046	
	1963		1,416		7,317	Calaveras
			581		2,511	Amador
			<u>4,560</u>		<u>110,233</u>	Nevada
			6,557		120,061	
	1964		1,643		30,554	El Dorado
			3,896		69,164	Calaveras
			884		<u>11,616</u>	Nevada
			6,423		111,334	
	1965		988		11,427	Mariposa
			796		11,670	Calaveras
			111		1,314	Amador
			2,327		44,869	El Dorado
			<u>5,188</u>		<u>137,913</u>	Nevada
			9,410		207,193	
	1966		3,937		115,385	Placer
			<u>4,207</u>		<u>107,456</u>	Amador
			8,144		222,841	
	1967		1,330		9,920	Calaveras
			19		247	Mariposa
			4,574		99,888	Placer
			<u>12</u>		<u>217</u>	El Dorado
			5,935		110,272	



FY	Year	MBF	Volume	\$	Value	County of Origin
	1968	4,165		143,952		Calaveras
		28		356		El Dorado
		966		40,073		Amador
		1,807		45,707		Nevada
		<u>570</u>		<u>10,506</u>		Yuba
		7,536		230,088		
	1969	45		1,943		Yuba
		1,048		27,910		Nevada
		625		16,905		Tuolumne
		814		25,112		Mariposa
		3,449		173,102		El Dorado
		650		18,345		Placer
		934		40,091		Calaveras
		<u>249</u>		<u>4,980</u>		Madera
		7,814		308,388		
	1970	1,023		32,997		El Dorado
		3,753		100,141		Placer
		3,572		73,767		Tuolumne
		<u>11</u>		<u>55</u>		Nevada
		8,359		206,960		

MBM	
1965	1968
0,814	25,405
5,099	85,137
9,995	210,426
3,406	1,188
4,986	73,735
5,977	95,271
5,595	189,012
0,128	48,933
 0,000	 729,107

TABLE 2

Mother Lode Community Impact Area Timber Production 1960, 1965, 1968 ⁽¹⁾

County	Number of Operators (2)			Veneer Logs & Saw Logs MBM			Pulp Wood MBM			Miscellaneous MBM (3)			Total MBM		
	1960	1965	1968	1960	1965	1968	1960	1965	1968	1960	1965	1968	1960	1965	1968
Amador	11	12	15	15,902	40,782	25,390	--	--	--	276	32	15	16,178	40,814	25,405
Calaveras	34	17	15	74,095	75,099	85,390	--	--	--	93	--	65	74,188	75,099	85,137
El Dorado	62	87	69	336,593	199,665	210,272	--	--	--	231	303	154	336,824	199,995	210,426
Mariposa, Merced	22	11	7	18,134	8,320	1,180	--	--	--	459	86	8	18,593	8,406	1,188
Nevada	91	68	71	62,805	53,765	72,509	1,369	--	--	268	1,221	1,226	64,442	54,986	73,735
Placer	56	60	44	73,090	95,913	95,046	1,000	--	--	193	64	225	24,283	95,977	95,271
Tuolumne	24	23	24	74,055	145,539	188,952	--	--	--	131	56	60	74,186	145,595	189,012
Yuba	25	16	10	34,647	48,427	48,444	--	1,463	--	853	238	489	36,500	50,128	48,933
Total Within Mother Lode Community Impact Area	325	294	255	689,321	667,510	726,865	2,369	1,463	--	2,504	2,000	2,242	645,194	671,000	729,107

(1) State Forest Notes No. 10, 31, 39 California Division of Forestry.

(2) Includes Active Timber Operators engaged in production of Miscellaneous and Other Forest Products.

(3) Miscellaneous Products include split products, poles, pilings, fence posts, cordwood - See Table 5 for breakdown of products.

TABLE 3

(1)

Ownership Class of Commercial Forest Land, in the
Mother Lode Statistical Region (in thousand acres)

County	<u>Forest Land</u>				BLM % of Commercial Forest Land
	Total	<u>Commercial</u>		Pvt.	
		All Public	BLM		
Amador	141	44	2	95	1.4
Calaveras	255	77	11	167	4.3
El Dorado	690	326	5	359	0.7
Mariposa	295	230	2	63	0.7
Nevada	371	132	8	231	2.2
Placer	449	212	6	231	1.3
Tuolumne	622	443	3	176	0.5
All Counties Within Mother Lode Impact Area	2,823	1,464	37	1,322	1.3

TABLE 4

1968 Values for use in Calculating b_1 , b_2 , B_1 , B_2 , of Illustrations 3 & 4

County	Annual Cut (MBF)	BLM Cut (MBF) (1)	Manufacturing (3) Employment	Woods Industry Employment	Personal Income (4) in Mfg. Industry (In Thousands)	County Personal Income (In Thousands) (5)	Ann. Value of (6) All Timber Sales	Ann. Value of (6) BLM Timber Sales	Annual Sales in Lumber & Wood Industry (7)
Amador	25,405	630	719	625	5,328	\$ 34,122	\$ 571,612	\$ 14,175	2,616,715
Calaveras	85,137	1,613	586	200	4,342	33,168	1,915,582	36,292	8,769,111
El Dorado	210,426	928	975	725	7,225	111,301	4,734,585	20,880	21,673,878
Mariposa	1,188	182	40	0	296	19,444	26,730	4,095	122,364
Nevada	73,735	1,543	683	325	5,061	69,252	1,659,038	34,718	7,594,705
Placer	95,271	1,642	2,022	761*	14,983	221,745	2,143,598	36,945	9,812,913
Tuolumne	189,012	420	961	825	7,121	59,720	4,252,770	9,450	19,468,236
Yuba	19,573	62	906	360	6,713	177,096	440,392	1,395	2,016,019
Mother Lode Total	699,747	7,020	6,892	3,821	51,069	725,848	15,744,307	157,950	72,073,941
District Total	956,457	7,045	421,865	23,300	3,126,020	25,456,242	21,520,282	158,512	98,515,071
State Total	5,343,898		1,637,817	97,000	12,136,224	76,581,000	120,237,705		550,421,494

(1) State Forest Notes No. 39, CDF

(2) BLM does not sell timber every year in every county with public domain commercial timber stands.

(3) Table C-3, Page 21, average monthly employment as of 1968, Cal. Stat. Abstract 1969.

(4) No current data available. See Table H-3, Page 130, Manufacturing Statistics for 1963, Cal. Stat., Abstract 1969. Personal income per manufacturing industry employee developed by dividing total lumber and wood products employees into payroll (1963) and assuming a 6% increase in income-assumed income to be \$7,410 per employee in 1968.

(5) Table D-8 Page . 54, Total personal income by county. Cal. Stat. Abstract, 1969.

(6) Average ten year bid price for BLM timber of \$22.50/MBF applied to total cut per county.

(7) Data not available. Calculated by adding total state woods wages plus total state value added by manufacture plus total state stumpage (total state cut x ten year average district stumpage value); divided by total state cut to get average sale value per MBF which is then multiplied by county production. The result is an approximation of annual sales in the county -- assuming all timber cut in the county is sold after primary manufacture before being transported out of the county of origin. The value derived is \$103 per MBF of product. At this time, this is the only approach available. An error in this line of approach is evident in the case of Mariposa County, which had no reported wood industry employment.

$$B1 = \frac{7,020}{699,747} = .010 \text{ or } 1\% \text{ dependency for the timber industry on BLM timber in the Mother lode statistical region.}$$

Dependency of Local Community on BLM Timber (B2)

$$B2 = B1 \times B3 \times B4 \times B5$$

$$B3 = \frac{\text{Employment in Lumber Industry}}{\text{All Manufacturing Employment}}$$

$$B3 = \frac{3821}{6892} = .554$$

$$B4 = \frac{\text{Personal Income in Manufacturing Sector}}{\text{Total Personal Income}}$$

$$B4 = \frac{\$ 51,069,000}{\$725,848,000} = .070$$

$$B5 = \text{Type A Income Multiplier} = 2.5$$

$$B2 = B1 (.010) \times B3 (.554) \times B4 (.070) \times B5 (2.5)$$

$$B2 = .000969 \text{ or } .1\% \text{ community dependency on BLM timber in the Mother Lode Region}$$

Monetary Value of BLM Timber to Local Community (b1)

$$b1 \times b3 \times b4 \times b5$$

$$b3 = \frac{\text{Annual Value of BLM Timber Sales}}{\text{Annual value of all timber sales}}$$

$$b3 = \frac{\$ 157,950}{\$15,744,307} = .010$$

$$b4 = \text{Annual Sales in lumber and wood products industries.}$$

$$b4 = \$72,073,941$$

b5 = Income Multiplier - 2.5

b1 = b3 (.010) x b4 (\$72,073,941) x b5 (2.5)

b1 = \$1,801,849 Value of BLM Timber to the Mother Lode Region.

Unit Monetary Value of BLM Timber Sales to Local Community (b2)

b2 = $\frac{b1}{\text{Annual value of BLM timber sales}}$

b2 = $\frac{\$1,801,849}{7020}$ = \$256.67 MBF Unit Monetary Value for BLM timber to the Mother Lode region.

Benchmark Projections:

Present Situation	Total	BLM
Production (MBF)	Unknown	Unknown
Consumption (MBF)	699,747	7,020
Needs	Minus <u>1/</u>	Minus <u>1/</u>
Projection to 1980		
Consumption (MBF)	741,682 <u>2/</u>	6,000 <u>3/</u>
Needs	+	Minus <u>1/</u>

1/ Output in excess of market demand.

2/ Based on 6% increase.

3/ This figure is only a rough estimate as the re-inventory is not completed.

Outdoor Recreation

Outdoor Recreation

The majority of this section has been deferred until appropriate data can be obtained. The importance of the wildlife resource, with respect to big game hunting and habitat, will be discussed.

Big game (deer) hunting is an important recreation pursuit in the Mother Lode statistical region. Deer habitat acreage is shown in Table 1.

TABLE 1

Deer Habitat in Mother Lode

<u>Herd Unit</u>	<u>Total Range (acres)</u>	<u>BLM Range (acres)</u>	<u>%</u>
Nevada City	104,090	11,980	11.5
Blue Canyon	39,132	5,074	13.0
Pacific	57,600	360	.5
Grizzly Flat	102,400	1,740	1.5
Salt Springs	56,030	2,510	4.5
Railroad Flat	43,960	2,200	5.0
Stanislaus	143,700	6,680	4.5
Tuolumne	115,198	2,450	2.0
Yosemite	230,400	20,920	9.0
Camp Beale	640,000	9,000	1.4
Placerville	400,000	25,862	6.5
Mariposa	<u>980,000</u>	<u>104,677</u>	<u>10.5</u>
Total	2,912,510	193,453	6.6

Harvest data and hunter days expended are shown in Table 2.

TABLE 2

Hunter Harvest in the Mother Lode

<u>Herd Unit</u>	<u>Total Hunter Days</u>	<u>Total BLM^{1/} Hunter Days</u>	<u>BLM Non-Local Hunter Days</u>
Nevada City	15,681	1,803	1,190
Camp Beal	46,341	927	612
Blue Canyon	32,659	4,246	2,802
Pacific	29,183	146	96
Grizzly Flat	13,793	138	91
Placerville	54,707	3,556	2,347
Stanislaus	26,354	1,186	783
Tuolumne	23,992	480	317
Yosemite	63,293	5,696	3,759
Mariposa	26,054	2,736	1,806
Salt Springs	15,326	613	405
Railroad Flat	<u>50,876</u>	<u>2,544</u>	<u>1,679</u>
Total	398,259	24,071	15,887

^{1/} Based on percent of deer habitat

The following computations indicate dependency and monetary values of BLM deer habitat.

Dependency of Deer Hunters on BLM Deer Range (C1)

$$C1 = \frac{\text{Acres of BLM Deer Range}}{\text{Acres of all deer range}}$$

$$C1 = \frac{193,453}{2,912,510} = .066 \text{ or } 7\% \text{ dependency of hunters on BLM deer range in the Mother Lode region.}$$

Dependency of Local Community on BLM Deer Range (C2)

$$C2 = C1 \times \frac{C3}{C4}$$

C3 = Income generated by local expenditures of non-local hunters.

= Local expenditures of non-local hunters x income multiplier.

Expenditures of \$10 per day x 15,887 days = \$158,870.

Multiplier = 1

$$C3 = \$158,870 \times 1 = \$158,870$$

$$C4 = \text{Total personal income} = \$725,848,000.$$

$$C2 = C1 (.066) \times \frac{C3}{C4} \frac{(\$158,870)}{(\$725,848,000)}$$

$$C2 = .066 \times .0002$$

$$C2 = .00001 \text{ or } .001\% \text{ local Mother Lode dependency on BLM deer habitat.}$$

Total Monetary Value of BLM Based Deer Hunting to Local Community (C1)

$$C1 = C3 \times C4 \times C5$$

C3 = Local expenditures from non local deer hunters = number of non-local hunter days x average daily expenditure + number of out-of-state hunters x average daily expenditure.

$$C3 = 15,887 \times \$10 + (\text{insignificant})$$

$$C3 = \$158,870$$

$$C4 = \text{Proportion of BLM deer range to total deer range} = \frac{193,453}{2,912,510} = .066$$

$$C5 = \text{Income multiplier} = 1.0$$

$$C1 = C3 (\$158,870) \times C4 (.066) \times C5 (1.0)$$

C1 = \$10,485 total monetary value of BLM based deer hunting to the Mother Lode region.

Unit Monetary Value of BLM Based Deer Hunting by Non Local Hunters to the Local Community (C2a)

$$C2a = C5 \times \text{average daily local expenditures}$$

$$C2a = 1 \times \$10 = \$10 \text{ unit value}$$

Benchmark Projections:

<u>Present Situation</u>	<u>Total</u>	<u>BLM</u>
Production	NA	NA
Consumption (Hunter Days)	398,259	24,071
Needs	NA	NA

Projections to 1980

Consumption (Hunter Days)	521,617	31,297 ^{1/}
Needs	+	+ ^{2/}

1/ Based on same percent as in 1970.

2/ Expected demand will exceed these figures increase on BLM will probably come close to 50%.

Minerals

During 1968, an estimated \$25.1 million in mineral values were produced from the Mother Lode statistical region. (Table 1) This amounts to 8% of the total minerals value produced in the Folsom District for 1968. Although there are in excess of 200,000 acres of Public Domain and a similar amount of mineral lands in this region, relatively few of these lands contributed to this mineral production.

Of prime economic significance in this area is the mining of limestone and manufacturing of cement in Calaveras County. The construction and use of a new pipeline to slurry limestone from a distant quarry to the plant is a first in the nation and will undoubtedly have significant economic ramifications throughout 1980. Some Public Domain probably less than 100 acres is utilized in this operation.

Of the total acreage of Public Domain in the area, much of it embraces portions of the Mother Lode and other past gold-producing areas. At present, there are no large and sustained operating gold mines on Public Domain. There is however, a certain amount of small and intermittent prospecting and exploring that transpires more or less continuously throughout the area on Public Domain. The economic significance of gold mining is virtually nonexistent and its economic outlook through 1980 is poor.



Another mineral operation that contributes heavily to the economic lifeblood of Amador County is the clay, glass sand, and lignite and montan wax operations in the lone area. Some Public Domain is involved, probably less than 100 acres, in the production of these commodities. The economic outlook through 1980 for these minerals is good.

Other mineral extraction activities that utilize Public Domain input, include a sand and gravel operation at Shady Creek near North San Juan, in Nevada County. This involves less than 100 acres of public land.

Much Public Domain in this area contains satisfactory sand and gravel and stone deposits and as the demand for these commodities increases throughout 1980, the need to establish community pits and material sales programs will assume increased economic importance.

Other mineral commodities that will assume increased importance through 1980 and are also located on Public Domain include asbestos, limestone, soapstone, and based on geologic presumptions, yet-to-be discovered deposits of clay, glass sand, and lignite.

TABLE 1

Estimated Mineral Production From A¹
 Lands in the Mother Lode Region
 (\$ in millions)

<u>Mineral</u>	<u>1965</u>	<u>1968</u>
Cement	\$16.4	\$13.4
Sand & Gravel (aggregate)	3.9	2.9
Stone	3.4	2.6
Glass Sand	1.9	2.0
Lime	1.2	1.5
Asbestos	1.0	1.0
Clays	.7	.8
Gold	2.0	.4
Lignite (coal)	.2	.3
Soapstone	<u>.2</u>	<u>.2</u>
Total	\$30.9	\$25.1
Total Folsom District	305.6	300.7
Percent Mother Lode	10	8

¹ Source: California Division of Mines and Geology

Water

Water

The Mother Lode statistical region contains eight different major drainage basins ranging from the Yuba River in the north to the Merced River in the south. The total annual runoff for these rivers consists of approximately 10,728,688 acre feet per year, of which approximately 211,000 acre feet of water flows from public domain. (Tables 1 and Illustration 1 and 2)

Yuba River drainage system: Precipitation in this area is about 25 inches per year. The mean annual runoff is approximately 2,374,688 acre feet of which 3% of the flow comes from public domain. The ground water supply is sufficient to serve the present domestic needs. Shallow ground water is depleted by vegetation early in the summer and only deep rooted or drought-hardy species survive through the summer. The soil is replenished during the winter, usually to the saturation or run-off point. The annual concentration of salts in the winter from this drainage has little effect on its use except for a few specific industries. The total estimated annual amount is 92 PPM.

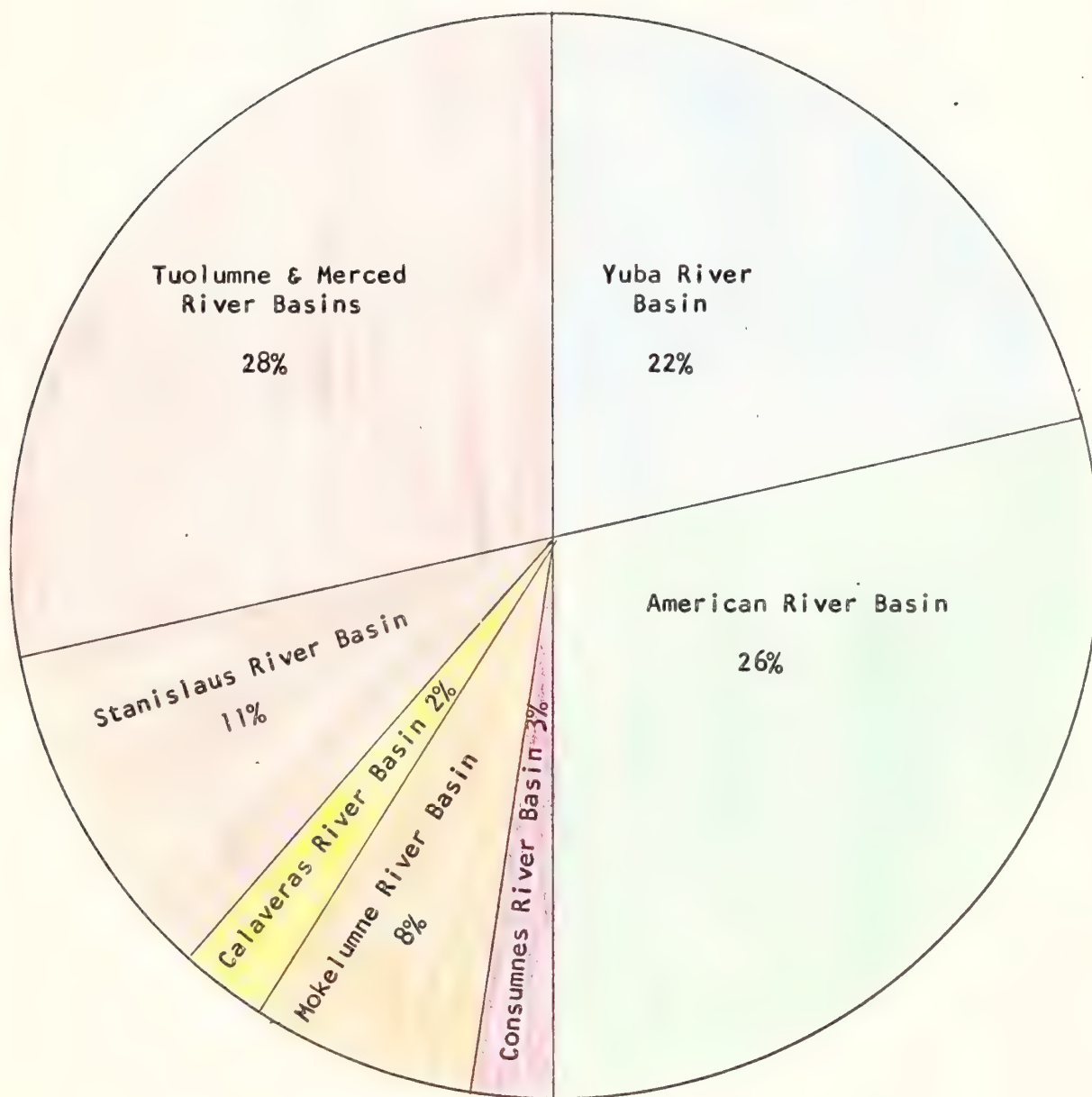
American River Basin: The annual precipitation in this area varies from approximately 25 inches in the foothills to 70 inches in the mountains. The estimated mean annual runoff is 2,770,000 acre feet per year. Water yield from the public domain is estimated to be 55,400 acre feet of water. The present water requirements in this

TABLE 1

Drainage Basins and Water Amounts in
The Mother Lode

Major Drainage Basins	Counties	Estimated Total Flow in Acre Feet	Estimated Flow From Public Domain in acre feet	% Flow from Public Domain
Yuba River	Nevada, Yuba	2,374,688	64,116	3%
American River	El Dorado, Placer	2,770,000	55,400	2%
Consumnes River	Amador	374,000	310	.01%
Mokelumne River	Amador, Calaveras	780,000	20,300	3%
Calaveras River	Calaveras	199,000	20,100	10%
Stanislaus River	Calaveras, Tuolumne	1,210,000	5,800	1%
Tuolumne River	Tuolumne	3,021,000	45,000	2%
Merced River	Mariposa			
TOTALS		10,728,688	211,026	2%

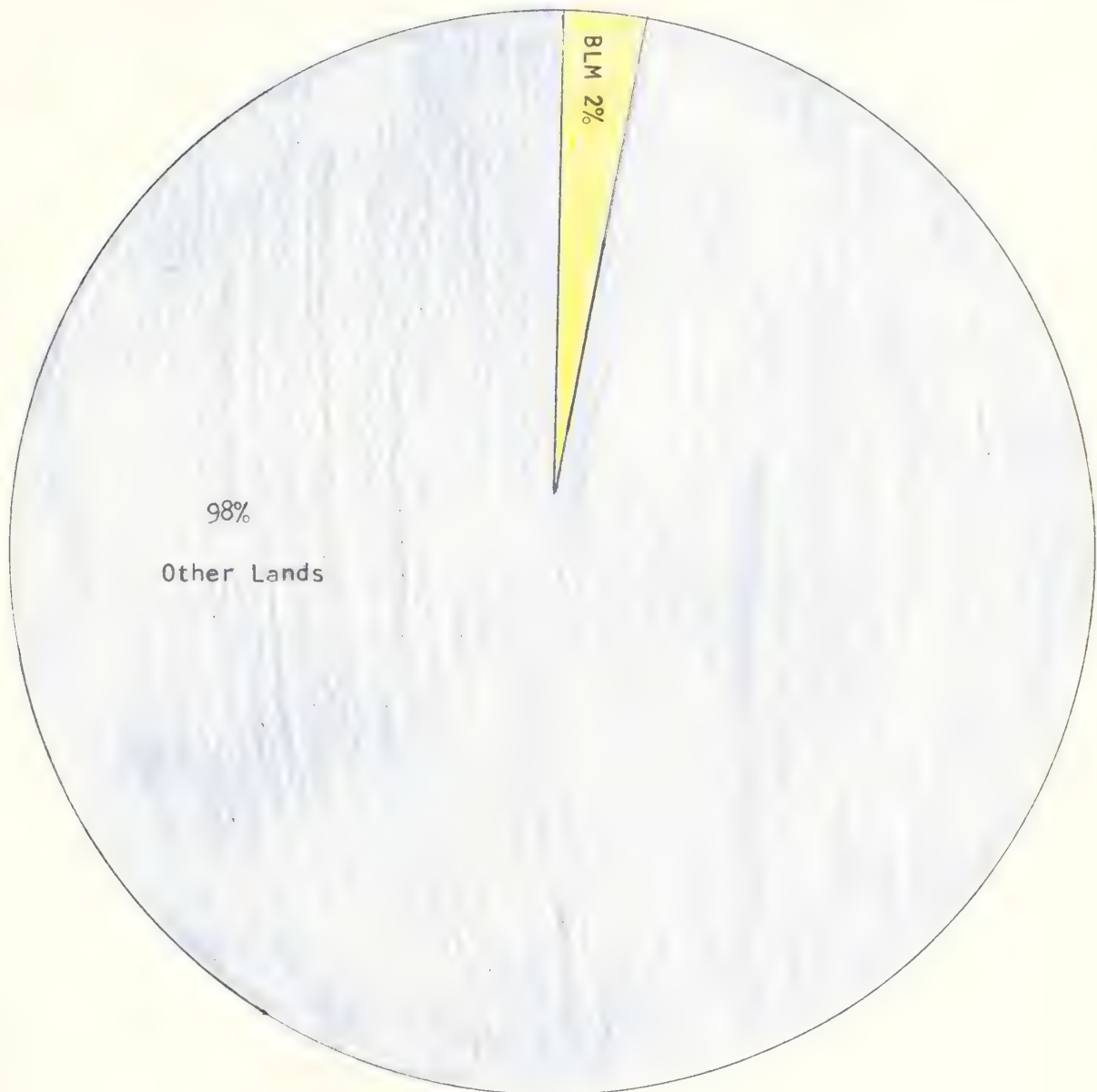
Percentage of Water
Flow in Mother Lode



Total Estimated Annual Flow in Acre Feet

10,728,688

Percentage Flow
From Public Domain



Total Flow

10,728,688 Acre Ft.

Flow From Public Domain

211,026 Acre Ft.

area for consumptive purposes are met without deficiency. The average annual sediment production rate of the American River drainage area is estimated to be .38 cubic yards per square mile. Runoff is of excellent quality for irrigation. Dissolved solids are usually less than 100 parts per million. Sodium component rarely exceeds 20 percent. No toxic salts which would impair the quality of the water for irrigation have been observed.

Consumnes River: Annual precipitation in this area averages 25 inches. The estimated mean runoff is 374,000 acre feet of which only an estimated 310 acre feet flows from public domain.

Mokelumne River Basin: The estimated mean annual runoff is 780,000 acre feet per year. Three percent of this runoff is estimated to flow from public domain. The major portion of this runoff is derived from snow melt. As a result, peak flows are reached in the spring and early summer months and low flows occur during late summer months. Ground water is not significant due to topographic and geologic conditions. The water is primarily used for irrigation, power-production, recreation and navigation. The quality of the surface water meets the US Public Health Standards. The quality of ground water is usually good, but in some places wells have hard water.

Calaveras River Basin: The estimated annual runoff for this area

is 199,000 acre feet of which an estimated 20,100 acre feet flows from public domain. Snowmelt does not contribute a large proportion to the runoff as does rainfall. Thus the monthly and annual patterns of runoff closely approximate the monthly and annual variations in precipitation over the basin. Stream discharge increases greatly within a few hours following major storms. The water is primarily used for irrigation, power production, and recreation. The quality of the surface water is good, however the ground water is hard containing CaCO_3 at 90 PPM. The New Hogan Reservoir, on the Calaveras River, provides flood protection for approximately 46,000 acres of agricultural and suburban land.

Stanislaus River Basin: The estimated mean annual runoff is 1,210,000 acre feet per year. Approximately 5,800 acre feet of this total flows from public domain. Runoff is derived, for the most part, from snowmelt. Peak flows are reached in the spring and early summer months, and low flows occur during late summer months. The quality of the surface water is considered to be good, while the ground water contains CaCO_3 at 90 PPM.

Tuolumne and Merced River Basins: These rivers are found primarily in Tuolumne and Mariposa Counties. The estimated mean annual runoff is 3,021,000 acre feet of which 2% is estimated to flow from public domain. Maximum runoff occurs during February and March. Minimum

runoff occurs during September and October. The quality of surface water easily meets the US Public Health Standards for drinking water as siltation is extremely low. Ground water is not significant due to the topographic and geologic conditions of the area. The surface water is utilized for stock water, domestic, industrial and limited irrigation purposes.

Benchmark Projections: The water supply in these rivers is sufficient to serve the domestic needs of the public and at this time does not show signs of depletion. However, with an increasing population, and increased development of the surrounding lands, the demand for this water is growing tremendously. Problems for water are increasing and are creating needs for further control, protection, conservation and distribution of the water in these basins.



Other Land Uses

Some 233,594 acres of BLM land comprise the Mother Lode impact area. This represents approximately 3.6% of the total acreage and ranges from 0.8% in Yuba County to 7.8% in Mariposa County. These lands are scattered in a shotgun pattern except for a large block of public land in Mariposa County and some concentrations along the major river canyons. Multiple Use Classification and Unit Resource Analysis studies have clearly demonstrated that BLM impacts are generally local in nature and only rarely affect even a county-wide area. These studies have also shown that there are no significant acreages of public land available for urban, agricultural, commercial or industrial development. A few small parcels may be developed in the future for these purposes, but their impact will be negligible. This mainly results from a general lack of any public lands located in proximity to population centers, cities or main transportation routes. In addition, the public land survey system is usually not favorable for commercial or industrial development. The businessman just does not want to buy 15 acres "north of the highway when all he needs is five acres south of the road." The lack of long-term financing and no direct sales to applicants are other factors which preclude the Bureau from ever becoming a significant force in commercial or industrial land sales.

Bureau lands which are agricultural in character are virtually

non-existent in the Mother Lode. Topographical, soil and rainfall characteristics on the public lands would make most farming ventures an economic disaster. Those few parcels which would support farm crops are much too small to provide an economic unit.

By far, the most common private use of the public lands has been for residential occupancy. The Small Tract Act provided a great many recreational and residential homesites of five acres and less before these sales were terminated in 1962. Unfortunately, the indiscriminate patenting of some lands has left problems of survey and access costing many times the original sale price. In addition many Small Tract Sales were made to resolve an unauthorized occupancy situation which is rarely consistent with good land use planning. To a lesser degree, patents under the Mining Claim Occupancy Act have also been issued to legalize an existing occupancy on a mining claim.

Rural private lands in these counties are in a steady transition from open grazing, mining and timber lands to rural residential development. Corporations such as Boise-Cascade and Western Lake Properties are buying large tracts for ultimate development into rural subdivisions. This growing demand for rural homesites has had and will continue to have a far reaching influence on public lands. As areas are converted to residential uses, demands are made for services, particularly roads, power, telephones, and domestic

water. In many cases these demands result in the construction of these facilities across public lands.

Several of the Mother Lode Counties, however, have recently discovered that there are several potential problems associated with the rural subdivision concept. The lack of enforceable zoning in some instances has allowed sales of lots without consideration of a sewage disposal system. Nevada County recently passed an emergency ordinance prohibiting the sale of any lot less than one acre in size where a septic tank disposal system is planned. Residents of the Georgetown Divide in El Dorado County suddenly discovered a Boise-Cascade development planned for the shores of the lake containing their water supply. No provisions had been made for any sewage system other than individual septic tanks in the rocky soils. A well publicized development near the proposed Auburn Reservoir contains several thousand lots - all allowed on septic tanks over the protests of the Bureau of Reclamation and the Public Health Service. The present anti-pollution laws can, unfortunately, only be enforced "after the pollution has taken place".

Some counties have a high percentage of absentee ownership which does little to contribute toward orderly growth and development. In Nevada County for instance, some four to five thousand subdivision lots are sold annually, but only a hundred or so housing starts are made. At Todd Valley Estates near Foresthill in Placer County,

improved homesites have sold since at least 1963. To date, two or three homes and a nearly deserted trailer park have been built on the lands. These speculative developments have a way of snowballing as more and more resource producing lands fall victim to rising taxes and the fast buck. Increased county maintenance on roads and water systems after the developer has vanished are additional expenses faced by the Mother Lode counties.

It is doubtful if the bare land tax revenues produced from the mountain subdivision can support the increased maintenance and administrative costs.

Petition applications by State, county and city governments as well as non-profit organizations for recreation or public purpose use of public lands are received each year. Proposed uses have ranged from dump sites to parks and schools. This type of demand will probably remain constant or slightly increase with further rural development.

The district case load in the Mother Lode impact area represents a wide cross section of case types as shown by the following list of applications on hand.

- 5 Recreation and Public Purposes
- 21 Public Sale (RS 2455)
- 5 Public Land Sale Act

- 11 Mining Claim Occupancy Act
- 3 Indian Allotment
- 2 Color of Title
- 5 Rights-of-Way
- 1 R/W Reappraisal (Microwave)
- 2 Special Land Use Permit
- 4 Withdrawal
- 1 Restoration
- 2 Public Sale Reappraisal

This list of 62 cases does not include the mineral examinations and contests necessary to provide for management as well as transfer of lands. Also not reflected is approximately 500 existing occupancy trespass cases of all kinds within the Mother Lode. The above list is, however, a good example of the types of cases expected in any given year. Many of these are carry overs because of survey and mining claim conflicts; and, in general, many more R/W's and SLUP's are handled each year on a pipeline basis.

No large impact on local or state economy is anticipated, but public lands in these counties will remain in demand for rights-of-way, special land uses, and for all types of recreational and public purpose uses. Those lands not designated for disposal will, within the projection period, assume principal importance in many areas for recreation, open space, wildlife, and related purposes. These uses will be very important in the future for the greater part of the public land within these counties .

Because of the many disposal land laws, we have the capability to be quite versatile in our decisions concerning transfer of the public lands. Anything from a sewer plant, to subdivision to swimming pool is possible on BLM lands. The versatility plus the fact that our ownership of disposal lands is generally in the more populated areas of the counties, increases our responsibilities in the Mother Lode. We must recognize that our impacts, though local in nature, are still most important to the parties concerned. Every transaction and every parcel must be carefully analyzed in light of its possible contribution in public or private uses. Continued cooperation and coordination with local governments is a must if we are to effectively manage for other land uses. Proper classification then, as now, is our greatest responsibility for the future.

Benchmark Projections: Except for minor changes in the future, multiple use classification is complete throughout the eight Mother Lode Counties. Disposal classification (Type IV), however, is only accomplished in Tuolumne and Mariposa Counties where some 7,000 acres of land were classified as suitable for disposition. It is hoped these lands will be transferred on a Bureau motion basis rather than under the petition-application system. Nearly all of these lands are classified for sale under the old public sale law (RS 2455).

Completion of the (Type IV) Classification program in the Mother Lode will not be possible due to a shift in emphasis to petition-

application casework and the expiration of the C&MU Act. Approximately 10,000 acres will remain unclassified in Calaveras, Amador, El Dorado, Placer, Nevada and Yuba Counties. These lands will, of course, be open to application under the public land laws and casework will undoubtedly be concentrated on them.

The Folsom District can expect a continuation of its present demands and pressures on public land in the Mother Lode counties. As the District enters into its actual disposal program, the number of petition applications on hand will slowly decline. Those lands sold will mostly be purchased by adjoining landowners and incorporated into private ranch operations and residential holdings.

DIABLO IMPACT AREA

Major Economic
Variables

A. Population: The population in the Diablo statistical region has fluctuated through the years. The region had a large growth rate from 1950-1960 (38%), it dropped off from 1960-1970 to 34% and is expected to increase by 33% in the 1970 to 1980 period. The next ten year increase will exceed the expected total district percentage increase. Illustration 1 shows the expected percentage increase for this region. The population in the Diablo region is 11% of the total district population. (Illustration 2)

The majority of the population in this region lives in cities. Fifty-eight percent of the total population is in the cities. (Table 1) The major city areas are Salinas, Monterey-Carmel in Monterey County and Fresno in Fresno County.

TABLE 1
Population Distribution by Cities and Rural Areas
July 1, 1970

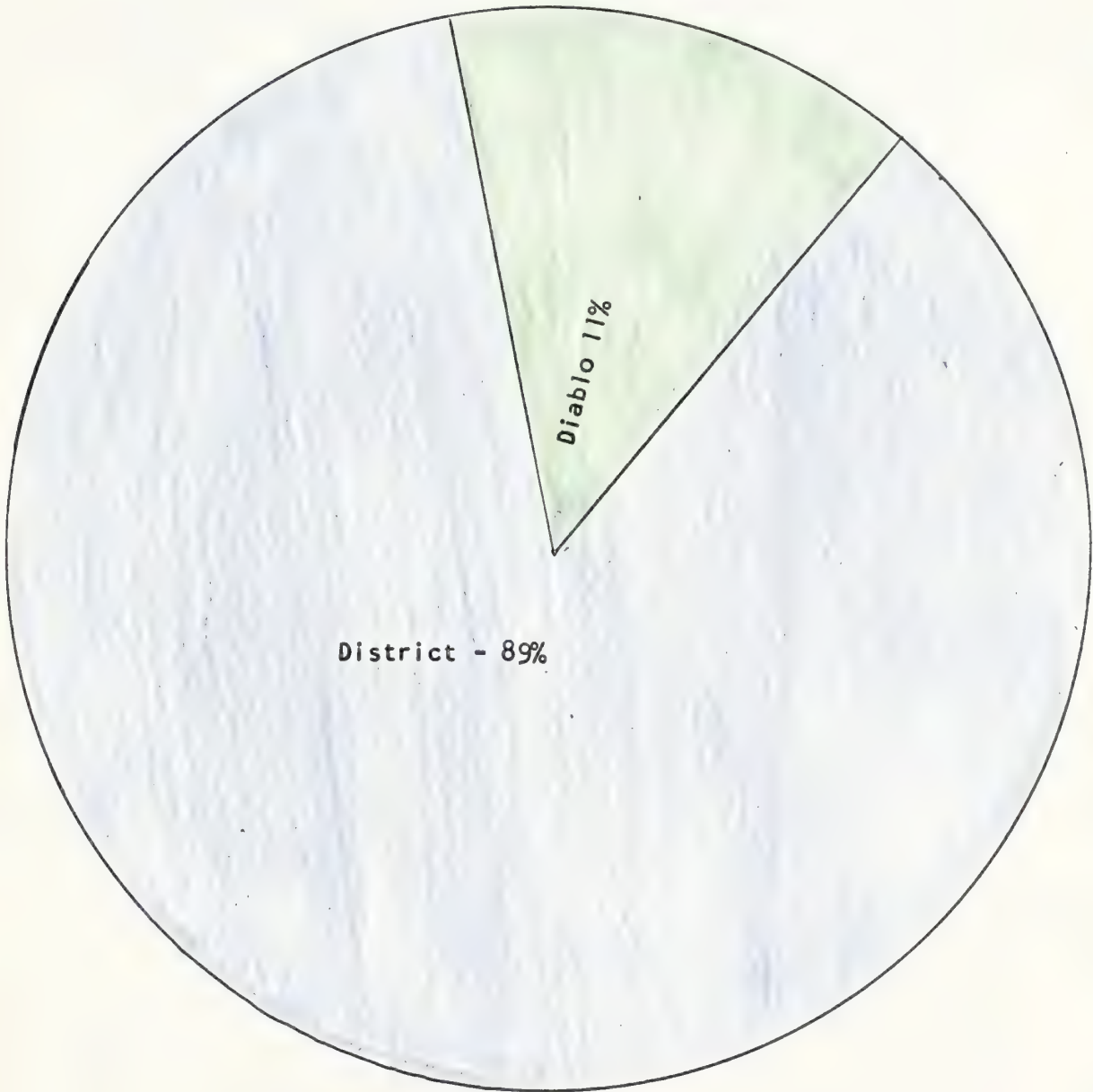
<u>Area</u>	<u>Total Population</u>	<u>Cities</u>	<u>%</u>	<u>Rural</u>	<u>%</u>
Fresno	480,900	268,820	56	212,080	44
Monterey Co.	276,800	175,490	63	101,310	37
San Benito Co.	<u>18,000</u>	<u>8,390</u>	<u>47</u>	<u>9,610</u>	<u>53</u>
Total	775,700	452,700	58	323,000	42
District %	5		72		28

The increase expected in the population growth of this region in the next 10 years could affect resource management.

The 1970 population density for this region is 72 people per square mile. This will increase to 96 per square mile by 1980. This will be a 33% increase. This compares to an expected 30% increase on the district level. This could indicate an increased demand on public land for recreation and open space values in this region.

Diablo Population Percentage

July 1, 1970



B. Income: Personal income for the Diablo Statistical region was \$2,367,925,000 for the year 1968. This market a 70% increase in total personal income for the period of 1961 to 1968. This is the same percentage of increase as for the entire district.

Per capita income increase from \$2,409 to \$3,039 for residents of this region during the 1961-1968 period. This was a 26% increase, far less than the overall district increase of 45%. The per capita income on a district basis for 1968 is \$4,103.

The determining of what importance each industry is to the total income picture was difficult, because of a lack of information. Illustration 1 shows the percent of wages by type of industry. According to this data the top three industries are ranked as follows: 1. Wholesale & Retail Trade, 2. Manufacturing and 3. Agriculture-forestry. This compares to the district ranking as follows: 1. Manufacturing, 2. Wholesale & Retail Trade and 3. Services.

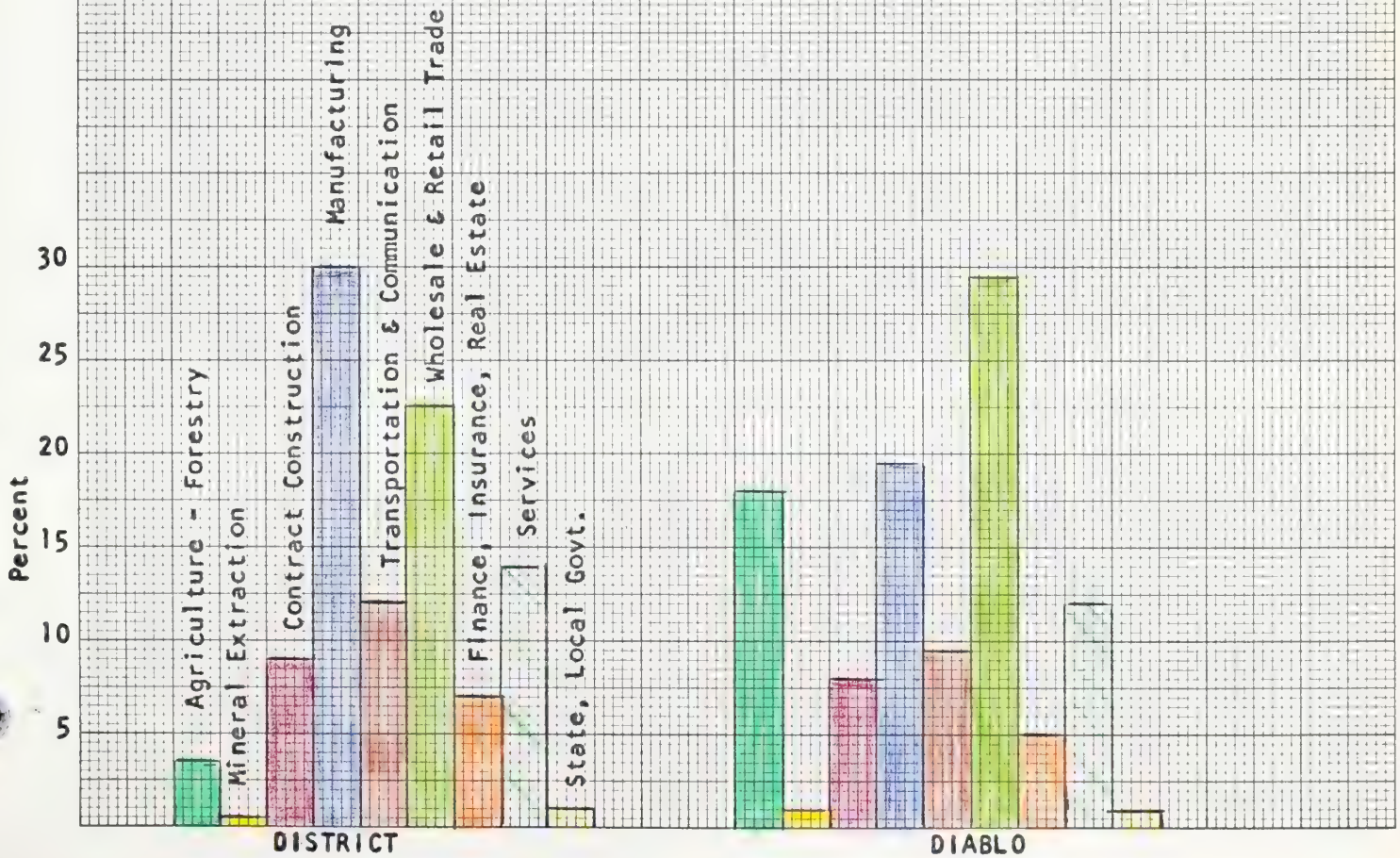
Wages contribute 38% of the total personal income. Property income and proprietor's income follow in that order.

Percent of Total Wages by Industry

1968

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C. Employment: Obtaining employment figures by industry was difficult; as was the case with income facts, certain counties do not report employment by industry.

The Diablo region labor force averaged 177,176 during 1968. This was 10% of the total district employment force. The industry rank by employment is shown in Table 1.

TABLE 1
Industry Rank by Employment ^{1/}

<u>Industry</u>	<u>District</u>	<u>Diablo</u>
Agriculture-Forestry	5	1
Wholesale & Retail Trade	1	2
Manufacturing	2	3
Services	3	4
Trans-Comm.	4	5
Contract Const.	7	6
Finance, Ins., Real Estate	6	7
Mineral Extraction	9	8
State, Local Govt.	8	9

^{1/} Based on % of total for each category

As can be seen by this table, agriculture-forestry is the leader in the employment field. This rank is different than the one by wages received.

Agriculture



Agriculture

Agriculture is the single most important economic factor in the Diablo statistical region, based on employment data. Vegetable and field crops are the most important products (Table 1). Most of the field crops are grown in the Class 1 soils between the Diablo Foothills and Fresno Slough. This is the largest single block of Class 1 agricultural land in California.

The San Luis and San Felipe projects will bring additional water to the irrigable areas of San Benito and western Fresno Counties, and to the coastal delta of Monterey County. This will result in a considerable increase in irrigated crops particularly in western Fresno County.

The total gross value of agricultural production in 1968 for this region was \$711,194,000. This was 54% of the total district production. The rank of the various products is shown in Table 2.

TABLE 1

Diablo Region Gross Value of Agricultural Production ^{1/} 1968

(1,000 Dollars)

<u>Area</u>	<u>Field Crops</u>	<u>Seed Crops</u>	<u>Vegetable Crops</u>	<u>Fruit & Nut Crops</u>	<u>Nursery & Cut Flowers</u>	<u>Apiary Products</u>	<u>Livestock and Livestock Prod.</u>	<u>Poultry and Poultry Prod.</u>
Fresno County	134,034	14,026	56,634	169,834	1,012	230	65,888	24,001
Monterey County	19,258	1,250	137,087	17,100	6,894	---	28,320	2,824
San Benito County	<u>2,383</u>	<u>909</u>	<u>12,140</u>	<u>7,597</u>	<u>-----</u>	<u>---</u>	<u>7,049</u>	<u>2,724</u>
Diablo Totals	\$155,675	\$16,185	\$205,861	\$194,531	\$7,906	\$230	\$101,257	\$29,549
District Totals	\$271,033	\$19,908	\$268,639	\$334,774	\$32,648	\$863	\$276,515	\$113,811
Diablo %	57	81	77	58	24	27	37	26

^{1/} From Annual Crop and Livestock Reports (Agricultural Commissioner)

TABLE 2

Comparative Value / Agricultural Products
in the Diablo Region
1968

<u>Product</u>	<u>% of Total</u>
Vegetable Crops	29
Fruit & Nut Crops	27
Field Crops	22
Livestock and Livestock Products	14
Poultry & Poultry Products	4
Seed Crops	2
Nursery and Cut Flowers	1
Apiary Products	1

TABLE 3

Agriculture Employment in Diablo Region

<u>County</u>	<u>Population</u>	<u>Persons Employed</u>	<u>Persons Employed In Ag. Production¹</u>	<u>Hired Domestic Workers</u>		<u>Total in Agric.</u>	<u>% of Total Employed</u>
				<u>Empl'd in Agriculture</u>	<u>Empl'd in Livestock Prod.</u>		
Fresno	480,900	171,300	35,460	26,940	424	62,824	37
Monterey	276,800	80,500	10,880	8,860	142	19,882	25
San Benito	<u>18,000</u>	<u>7,200</u>	<u>2,110</u>	<u>1,630</u>	<u>79</u>	<u>3,819</u>	<u>53</u>
Total	--	259,000	--	--	--	86,525	33

1. Includes farm owners.



There is little difference between the top three products as can be seen from Table 2.

Employment in Agriculture is shown in Table 3. Thirty-three percent of the total work force in this region is involved in agriculture. The percent in San Benito County though is 53%.

Livestock Sector: Livestock and livestock products rank fourth (Table 2) among all the agricultural products. They represent 14% of the total value of all agricultural products produced in the Diablo statistical region. However, in San Benito County, these products represent 22% of the total value of agricultural products. (Table 4)

TABLE 4

Comparative Value of Livestock in the Diablo Region
(1,000 Dollars)

<u>Area</u>	<u>Value of All Crops</u>	<u>Value of Livestock & Livestock Products</u>	<u>% of Livestock to Total Production</u>
Fresno County	\$465,659	\$65,888	14
Monterey County	\$212,733	\$28,320	13
San Benito County	<u>\$32,802</u>	<u>\$7,049</u>	<u>22</u>
Totals	\$711,194	\$101,257	14

Livestock numbers and trend from 1956 are shown in Table 5. Cattle numbers have increased substantially in all areas since 1956. The overall increase has been 58%. This compares to a district increase

of only 27%. Sheep numbers have increased in the Diablo region by 15% for the same time period. On the district level, sheep numbers have declined by 18%. Although sheep have increased in the Diablo area from 1956 to 1970, they decreased in the period from 1965 to 1970 by 12%. This decrease is expected to continue as sheep operations are shifted to a steer operation.

This trend is due in part to market conditions. More important is the loss of range and crop residue to irrigated row crops following the construction of the San Luis Canal. The greater flexibility of steer operations makes them less dependent upon local weather and forage conditions. The success in developing and distributing water on several steer ranges has contributed to the overall conversion from sheep to steer operations.

TABLE 5

Trends in Livestock Production 1956 & 1970

Area	1956		1970		% Change	
	Cattle	Sheep	Cattle	Sheep	Cattle	Sheep
Fresno Co.	200,100	71,200	308,900	96,300	+54	+35
Monterey Co.	107,200	10,400	201,300	8,000	+88	-23
San Benito Co.	<u>54,700</u>	<u>15,000</u>	<u>60,200</u>	<u>6,500</u>	<u>+10</u>	<u>-57</u>
Totals	362,000	96,600	570,400	110,800	+58	+15
District	1,158,500	257,800	1,473,900	210,000	+27	-18
Diablo % of District	31%	37%	39%	53%		

Table 6 compares the forage requirements for this region with the district statistical region.

TABLE 6

Livestock Numbers and Forage Requirements
1970

<u>Area</u>	<u># Beef Cattle</u>	<u># Sheep</u>	<u>Total Ann. AUM Req'm't</u>
Dist.	1,473,900	210,000	18,190,800
Diablo	570,400	110,800	7,110,720
% Diablo	39%	53%	39%

Forestry

Forestry

There is no commercial forestry in West Fresno and San Benito Counties. Monterey County has 16,000 acres of commercial timber land in private ownership and 5,000 acres of commercial timber in public ownership. Heavy tree growth is confined to the western slopes of the Santa Lucia Mountain Range. The Monterey Peninsula has four cone bearing trees peculiar to the area. These are the Monterey pine, Bishop pine, Monterey Cypress and Gowan Cypress.

Public land in the New Idria area of Fresno and San Benito County contains a stand of Sierra type Jeffery pine, Coulter pine and a natural cross between the two which is peculiar to the New Idria area. Incense Cedar is also found in the area. This is not a commercial stand under present circumstances but the stand has high potential for a seed orchard from which to plant adapted critical watersheds as a conservation measure. A portion of this stand is being classified as a natural area.

Recreation and Tourism

This industry probably ranks a close second in importance behind the agricultural industry in the Diablo Statistical region. The sectors which supply this industry rank within the top four in regards to income and employment.

Data is hard to obtain for this industry. What facts are known will be presented and then refined at a later date.

The Diablo region is covered by parts of two state tourism areas. The Central Coast area covers Santa Cruz, San Benito, Monterey and San Luis Obispo Counties. The South San Joaquin area covers Fresno, Inyo, Kern, Kings, Madera and Tulare Counties. For the purposes of this profile only the Central Coast area was considered as it covered the greater portion of the Diablo region.

Table 1 shows the visitors for the Central Coast area and the comparison of the Diablo region with the District.

TABLE 1

Distribution of California Resident and Out-of-State
Visitors for the Diablo Region 1966
(1,000's)

<u>Visitor Source</u>	<u>Visitors Central Coast Area</u>
Residents	
Day Trips	6,400
Overnight	2,175
Out of State	1,215
Total	9,790
Dist. Total	51,550
Diablo %	19%

At the present time, the recreation and tourism industry is most important to Monterey County. The county offers famous beaches, big name golf tournaments, boating, fishing, hunting, riding, hiking, camping plus many scenic and historical cultural attractions. Recreation and tourism in the other two counties is more of the extensive type.

However, the entire region is being discovered by outdoor recreationists. The climate is ideal for spring and fall recreation. Completion of the Westside Freeway (1-5) and cross state connecting routes will cause an upsurge in recreation and tourism in the entire statistical region.

Hunting: Deer hunting is a popular form of recreation within the Diablo statistical region. Table 2 portrays the important statistics.

TABLE 2

Diablo Region Hunting Statistics

<u>Area</u>	<u>Total Range (Acres)</u>	<u>% BLM</u>	<u>Total Hunting Days</u>	<u>% BLM</u>
Diablo	1,845,600	10	177,551	17
District	4,758,130	8	575,810	10
Diablo %	39	49	31	56

As can be seen from this table, 31% of the total hunting days expended in the district occurs within the Diablo region. But, on

the other hand, 56% of the hunting days which occur on BLM land occur within the Diablo region. This latter figure indicates the importance of the public domain land to the deer hunter within the Diablo region.

Mining

One percent of the wages and employment in the Diablo statistical region occurs in the mineral industry. Table 1 shows an increase in the total value of all minerals in Monterey and San Benito Counties and a decrease in Fresno County. This decrease is due to decreased petroleum production in the older fields of Fresno County since 1956. The total increase in the other areas is due in part to expanded production of mercury and the newly opened and expanded asbestos mining in the New Idria area.

TABLE 1

Value of Mineral Products - Diablo Region
(\$1000's)

<u>County</u>	<u>1965</u>	<u>1968</u>	<u>% Change</u>
Fresno	\$74,742	\$64,309	-14
Monterey	\$31,703	\$36,286	+14
San Benito	<u>\$10,691</u>	<u>\$12,081</u>	<u>+13</u>
Total	\$117,136	\$112,676	- 4
Total District	\$305,562	\$300,658	- 2
% Diablo	38%	37%	---

Table 2 shows the relative importance of various minerals in each county.

TABLE 2

Minerals Produced in 1968 (in order of value)

Areas		
Fresno County	Monterey County	San Benito County
1. petroleum	1. petroleum	1. mercury
2. sand and gravel	2. magnesium compounds	2. cement
3. natural gas	3. lime	3. stone
4. natural gas liquids	4. sand and gravel	4. asbestos
5. asbestos	5. stone	5. sand and gravel
6. stone	6. feldspar	6. petroleum
7. mercury	7. natural gas	7. natural gas
8. clay		8. clays
9. silver		9. silver

Service industries
including construction

Service Industries

In the Diablo statistical region 14% of the employment is in this industry. This compares to 17% on the district level. As for wages produced, this industry produces 12% of the wages in the Diablo region as compared to 14% on the district level.

TABLE 1

**Taxable Transactions for Selected Services
Diablo Statistical Region¹
(\$1,000's)**

<u>Service</u>	<u>1965</u>	<u>% of Total</u>	<u>1969</u>	<u>% of Total</u>
Drug Stores	34,762	17%	33,868	15%
Food Stores	34,631	23%	50,628	22%
Liquor Stores	14,711	10%	25,032	11%
Eating and Drinking Places	55,668	38%	94,499	41%
Service Stations	<u>17,805</u>	12%	<u>26,783</u>	12%
Total	147,567		230,810	

1. No data available for San Benito County

TABLE 2
Percent Change of Selected Services
1960-1968

<u>Services</u>	<u>District</u>		<u>Diablo Region</u>	
	<u>No. of Stores</u>	<u>Taxable Transactions</u>	<u>No. of Stores</u>	<u>Taxable Transactions</u>
Drug Stores	5%	15%	2%	37%
Food Stores	-21%	63%	-15%	46%
Liquor Stores	44%	80%	16%	70%
Eating and Drinking Places	7%	83%	2%	70%
Service Stations	<u>10%</u>	<u>31%</u>	<u>6%</u>	<u>50%</u>
TOTAL	32%	57%	.2%	56%

As can be seen from these tables, the largest gains occurred in eating and drinking places for taxable transactions. The overall increase in transactions for this region matched the district region growth. The number of stores remained static in this region, while numbers increased on the district level.

Livestock Feed

Livestock Feed

Range livestock production is the third largest wage source in the Diablo Statistical region.

More than 100,000 animal unit months of forage are produced on the range or on irrigated lands in support of the range industry in this area. Fresno County is one of the leading California counties in cattle and sheep numbers and wool production. San Benito and Monterey Counties lack the grazeable land to compete with Fresno.

Cattle operations are of three kinds: Cow-calf, stocker (steer), and feedlot. The first two kinds use BLM forage. Feed lots do not use government produced forage but do depend heavily on the aforementioned stocker operations for their livestock.

Cow-calf operations produce calves and keep them until weaning time. They use Hereford cattle almost exclusively. Stocker operations keep the animals from weaning time until they have their full skeletal growth. These operations use locally produced Hereford steers or Mexican crossbreds. Often a single ranch will combine these two operations. Feed lots fatten the animals for slaughter. There are three large feed lots on the Diablo area: Harris at Five Points, Fat City (Maverick) at Gonzales, Coalinga Feed Lot at Coalinga and a smaller one at the mouth of Panoche Creek Canyon.

All sheep operations produce wool and slaughter lambs. The animals are whitefaced crossbred range ewes (mostly Columbia and Rambouillet with some Targee, Panama, and Corridale blood) which are bred to darkface rams (Suffork or Hampshire). This produces lambs with a desirable carcass quality while still providing good quality wool. The lambs are sold directly to slaughter or to feed lots in the late spring or early summer.

Several cattle operators also graze horses, but few, if any, horses are actually raised for a profit. The animals are primarily kept to work the cattle. One operator, R.R. Hennigan, keeps milk goats for his family.

There are 207,952 acres currently under 108 Section 15 leases in this region. These leases supply an estimated 22,776 AUM's or 63% of the total AUM's supplied by BLM district lands.

Table 1 compares livestock forage on BLM lands in this region to the district region.

TABLE 1

Livestock Forage Consumption on BLM Lands
1970

<u>Area</u>	<u>Licensed AUM's</u>	<u>1 Ann. AUM's Req'd</u>	<u>% Supplied by BLM</u>
District	35,488	461,444	8
Diablo	22,776	326,304	7
% Diablo	64	71	-

1. Total AUM's required by cattle grazed on BLM land.

The table shows that in the Diablo region, BLM lands supply 7% of the total forage required for the livestock which graze on BLM lands. (Illustration 1) The total livestock feed requirement for the Diablo region is 7,110,720 AUM's. BLM supplies only .3% of this requirement. This compares to .2% on a district basis. Overall dependency on BLM forage is low.

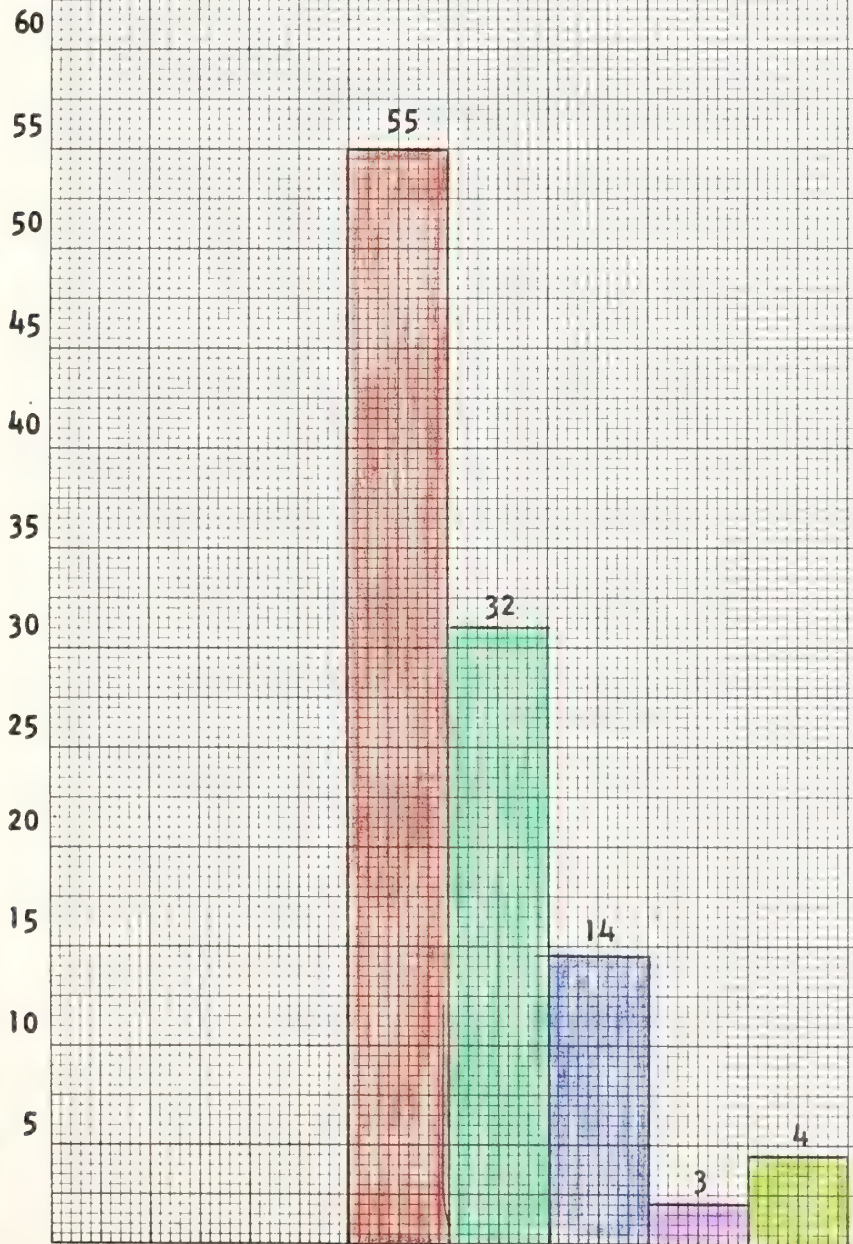
All but one of the sheep operations are located on the annual grass ranges of the West Hills.* Here the public domain is interspersed with and/or adjacent to private grazing land. Therefore, the two are inseparable as far as the livestock industry is concerned. These sheepment collectively graze 43,000 sheep and depend on public domain for from less than one to seventy percent of their spring grazing (Table 2).

More than 40,000 cattle graze Diablo Area public domain. Most grazing is done in the late winter or spring. These operations range from the West Hills to the San Lucia Mountains. Four of these: Silver Creek Cattle Company at Panoche, Esteban Elgorriaga in Ciervo Hills, Grant Squire in Los Gatos Creek Canyon and Maverick Land and Cattle Company in Hernandez Valley and Warthan Canyon are large operations which depend heavily on public land. Together they use a total of 4,438 animal unit months of BLM forage annually. The

*West Hills is a collective term for the Panoche, Tumey, Griswold, Ciervo, Big Blue and Kettleman Hills.

Percent Dependency on BLM Forage
Diablo Area 1970

LEGEND: 0-9%
10-24%
25-49%
50-74%
75-100%



balance are small ranches which depend on public domain to varying degrees or large operations such as the El Tejon Land and Cattle Company and the Tracy Ranch which have small Government grazing leases.

The following computations develop additional dependency factors and monetary value of BLM's forage.

Dependency of Livestock Industry on BLM Forage (A1)

$$A1 = \frac{\text{Licensed Grazing on Public Lands}}{\text{Total livestock feed requirements}}$$

$$A1 = \frac{24,118}{7,110,720} = .003 \text{ or } .3\% \text{ dependency of Diablo Statistical region livestock industry on BLM forage.}$$

Dependency of Local Community on BLM Forage (A2)

$$A2 = A1 \times A3 \times A4 \times A5$$

$$A3 = \frac{\text{Value of Livestock products sold}}{\text{Value of all agricultural products sold}}$$

$$A4 = \frac{\text{Personal income in agricultural sector}}{\text{Total personal income in community}}$$

$$A4 = \frac{\$148,127,669}{\$2,367,925,000} = .062$$

$$A5 = \text{Income multiplier} = 2.0$$

$$A2 = A1 (.003) \times A3 (.142) \times A4 (.062) \times A5 (2.0)$$

$$A2 = .00005 \text{ or } .005\% \text{ dependency of Diablo statistical region on BLM forage.}$$

Total Monetary Value of BLM Forage to Diablo Statistical Region (A1)

$$A1 = A3 \times A4 \times A5$$

A3 = Personal Income in livestock industry

$$= \frac{\text{Value of livestock products sold}}{\text{Value of all agricultural products sold}} \times \text{Total Agricultural Personal Income}$$

$$A3 = \frac{\$101,257,000}{\$708,194,000} \times \$148,127,669$$

$$A3 = .142 \times \$148,127,669 = \$21,034,129$$

$$A4 = \frac{\text{Licensed grazing use on public lands}}{\text{Total livestock feed requirements}}$$

$$A4 = \frac{22,776}{7,110,720} = .003$$

$$A5 = \text{Income multiplier} = 2.0$$

$$A1 = A3 (\$21,034,129) \times A4 (.003) \times A5 (2.0)$$

$$A1 = \$126,205 \text{ monetary value of BLM forage to the Diablo statistical region}$$

Unit Monetary Value of BLM Forage to Diablo Region (A2)

$$A2 = \frac{A1}{\text{Licensed grazing use on public lands}}$$

$$A2 = \frac{\$126,205}{22,776} = 5.54 \text{ Unit Monetary value of BLM forage in the Diablo region.}$$

Benchmark Projections:

<u>Present Situation</u>	<u>Total</u>	<u>BLM</u>
Production (AUM's)	Unknown	22,776
Consumption ^{1/} (AUM's)	7,110,720	22,776
Needs	Unknown	Minus ^{3/}
 <u>Projection to 1980</u>		
Consumption ^{1/}	9,598,776	30,745 ^{2/}
Needs	Unknown	Minus ^{3/}

1/ Based on total number of livestock.

2/ Based on same % as in 1970.

3/ Actual need or demand for BLM forage is less than produced.



TABLE 2

Livestock Operations on the Diablo Region

Operator	Acres	AUM's	Total AUM's	Percent Dep. BLM Forage	Livestock
San Benito County					
Akers, Herman*	2950	454	2280	20	Cows & Calves
Ardans Bros.	2293	165	1920	8	Sheep
Ashurst, G.P.	9001	921	2400	38	Cows, Calves, Steers
Bryan, Loren E.	92	21	174	12	Steers, ***
Butts, Ella et. al.	2575	399	9600	4	Cows, Calves, Steers
Eade, Harold	1757	136	12000	1	Cows, Calves, Steers
El Tejon Cattle Co.*	2644	248	9000	3	Steers
Forstad, Irving	1462	66	1440	4	Cows & Calves
Frusetta, Geraldine	1480	149	1200	14	Steers
Frusetta (Estate)	3160	294	150	100	Steers
Garner, Richard	1017	84	720	12	Steers
Hall, Mae E.	40	14	2400	--	Cows & Calves
Hennagan, R.R.	1846	193	600	32	Cows, Calves, Steers, Goats
McCulloch, C.F.	520	80	4500	2	Steers & Sheep
McDonald, Daniel	3797	422	2400	18	Steers



Operator	Acres	AUM's	Total AUM's	Percent Dep. BLM Forage	Livestock
San Benito County					
Maverick Land & Cattle Company No. 1	8067	816	15000	5	Steers
Maverick Land & Cattle Company No. 3	5133	265	3600	7	Steers
Mauck, Margaret J.	1471	207	480	43	Cows & Calves
Melendy, George Est.	5445	672	12000	6	Steers, Cows and Calves
Nielsen, Erwin	400	66	600	11	Steers
Ortiz, Manuel	1647	102	420	24	Steers
Pfyffer, Fred	720	49	150	32	Steers
Pivetti, Albert	240	22	2100	1	Steers
Schmidt, Jeff	1481	66	3240	2	60 Cows and Calve 300 Steers
Strohn, C.J. (Estate)	600	106	3480	3	Cows, Calves, and Steers
Tognazzini and Whitehead	1494	83	1500	6	Steers
Traut, M.T.	160	13	120	11	Cows & Calves
Tully, L.E.	720	93	1800	5	Cows & Calves
White, W.G.	2083	158	192	82	Steers
Verasconi, Lorio*	400	8	120	7	Steers
Wilbur, Blake	<u>438</u>	<u>16</u>	<u>600</u>	<u>3</u>	Steers
TOTAL	63,093	6,544	95,226	7	

Operator	Acres	AUM's	Total AUM's	Percent Dep. BLM Forage	Livestock
Fresno County					
Akers, Charles, et. al.	2825	303	900	34	Cows, Calves Steers
Anderson, T.A.	623	156	780	20	Cows
Bidegaray & Sagardia Brothers	7779	1020	31200	3	Sheep
Birdwell, Perry	4642	333	4200	8	Cows, Calves, Steers
Burnett Brothers	2305	193	3000	6	Steers, Cows, Calves
CTS River Ranch	318	80	840	10	Cows
Den Hartog Cattle Co.**	1872	124	11100	1	Steers
Dias, Mary	563	104	204	51	Cows and Calves
Domengine, A.M. (Estate)	1149	224	840	27	Cows, Calves, Steers
Elgorriaga, E.B.	9210	1592	7800	20	Steers
Elwood, Dorothy	80	20	108	18	Sheep
Etcheverry Brothers	3700	549	3360	16	Sheep
Fulgham	120	10	24	42	Sheep
Griffen Inc.	320	46	240	19	Sheep
H. & E. Land and Cattle Co.*	3020	625	2340	27	Steers
Heinrich, Pete	1120	110	1200	9	Cows & Calves
Houghton Brothers	324	54	4800	1	Cows



Operator	Acres	AUM's	Total AUM's	Percent Dep. BLM Forage	Livestock
Fresno County					
Howell, C.W.	2262	189	1800	10	Cows & Calves
Jaurena Brothers	2214	204	16800	1	Sheep
Johnson, Frank L.	715	45	1152	4	Cows & Calves
Johnson, Frank L. Jr.*	1501	154	1200	13	Cows & Calves
Jones, Marvin *	7055	1146	1200	96	Steers
Jonkey, L.C.	160	24	600	4	Steers
Lasgoity, John	581	32	4800	1	Sheep
Maverick Land & Cattle Company, Lease No. 2	5763	653	11394	6	Steers
McCall, D.K.	79	15	48	31	Steers
Narbaitz, John & Sons*	278	55	19560	-	Sheep
Rambo, Gene	560	62	120	52	Cows, Calves, Steers
Roberts Brothers	320	32	120	27	Steers
Roberts, Robert J.	600	32	120	27	Steers
Sagardia Brothers	4040	389	4800	8	Sheep
Signal Hill Investment Company	960	87	2100	4	Steers
Silver Creek Cattle Co*11003		1707	10800	16	Steers
Squire, John	4438	435	1800	24	Cows, Calves, Steers



Operator	Acres	AUM's	Total AUM's	Percent Dep. BLM Forage	Livestock
Fresno County					
Squire, Grant*	4882	620	2880	22	Steers
Talbott Sheep Co.	5636	586	3480	17	Sheep
Talbott & Yriarte	2720	231	2280	10	Sheep
Tracy Ranch **	1010	88	612	14	Steers
Vann Sodie	120	17	192	9	Cows
Williamson, James	1760	127	540	24	Steers
Wolfenberger, Roland	1546	123	564	22	Steers
Wright, Charles	2769	312	846	37	Steers
Xavier, E.L.	481	30	474	6	Steers
Strohn, Paul	160	8	480	2	Cows
Yparraguirre, A.	2196	550	4040	11	Sheep
Zubeldia, Frank	906	204	12000	2	Sheep
Zwang, Darrell**	<u>1240</u>	<u>135</u>	<u>1920</u>	<u>7</u>	Steers
TOTAL	121,517	14,877	227,034	7	

Operator	Acres	AUM's	Total AUM's	Percent Dep. BLM Forage	Livestock
Monterey County					
Aurignac, Paul	46	9	18000	-	Cows, Calves Steers
Bagby, Hope	2959	196	420	47	Cows and Calves
Breschini, et. al.	609	48	360	13	Steers
Dow, Neal	280	13	360	4	Steers
Emery, John	1090	56	600	9	Cows and Calves
Errea, Miguel	724	81	600	14	Cows and Calves
Folks, George	845	79	480	16	Cows and Calves
Flentge, Myrtle	1080	64	2400	3	Cows and Calves
Freeman, Tom	240	35	1680	2	Cows and Calves Steers
Gianolini, Charles	2436	111	120	92	Steers
Gruver, BF (Estate)	680	27	180	15	Steers
La Macchia, Frank No. 1	1280	39	900	4	Steers
La Macchia, Frank No. 2	240	32	900	4	Steers
Lanigan, T.J.	3156	263	450	58	Steers
McKinsey, J.W.	320	39	600	6	Steers
McPhail, Eldon	480	80	600	13	Cow, Calves, Steers
Meyers, Andrew J.	160	12	1020	1	Cows, Calves, Steers
Patterson, Lester	358	27	720	4	Cows, Calves, Steers

Operator	Acres	AUM's	Total AUM's	Percent Dep. BLM Forage	Livestock
Monterey County					
Patterson and Cox	240	38	420	9	Cows, Calves Steers
Powell, Lester	3344	279	960	29	Cows and Calves
Priest Valley Cattle Co.	320	25	1500	2	Cows, Calves, Steers
Red Rock Cattle Co.	482	54	600	9	Cows, Calves, Steers
Roth, Henry	1963	72	1200	6	Cows and Calves
Smith, James T.	80	16	180	9	Cows, Calves, Steers
Sonne, W.W.	1469	70	480	15	Cows, Calves, Steers
Sullivan, W.M.	1840	110	1650	7	Steers
Taylor, Floyd No. 1*	2800	217	900	24	Cows, Calves, Steers
Taylor, Floyd No. 2	2687	226	3000	8	Cows, Calves, Steers
Varian, John O. *	2162	220	6000	4	Steers
Viso, J.J.	<u>524</u>	<u>15</u>	<u>180</u>	<u>8</u>	Steers
TOTAL	35,445	2,697	48,528	6	

* In more than one county, but listed in county where the major portion of the lease is located.

** Partially in Bakersfield District.

*** All steer operations figured on a six month basis.

- Less than .5%, if over a .5% shown as 1%

TOTALS

Fresno	107,925	13,835	182,658	8
Monterey	34,894	2,553	47,460	5
San Benito	<u>65,133</u>	<u>6,388</u>	<u>96,186</u>	<u>7</u>
TOTAL	208,952	22,776	326,304	6.9

Outdoor Recreation

The majority of this section has been deferred until appropriate data can be obtained. The importance of the wildlife resource, with respect to big game hunting and habitat will be discussed.

Big game (deer) hunting is an important recreation pursuit in the Diablo Statistical region. Deer habitat acreage is shown in Table 1.

TABLE 1
Deer Habitat in Diablo Region

<u>Herd Unit</u>	<u>Total Range (acres)</u>	<u>BLM Range</u>	<u>%</u>
Pacheco	140,800	6,400	4.5
Avenal	89,600	44,800	50.0
San Benito	515,200	103,040	20.0
Santa Lucia	<u>1,100,000</u>	<u>35,000</u>	<u>3.0</u>
Total	1,845,600	189,240	10.2

Harvest data and hunter days expended are shown in Table 2.

TABLE 2

Hunter Harvest in the Diablo Region

<u>Herd Unit</u>	<u>Total Hunter Days</u>	<u>Total BLM Hunter Days</u>	<u>BLM Non-Local Hunter Days</u>
San Benito	70,507	14,101	2,679
Pacheco	21,338	854	162
Avenal	19,030	12,560	2,386
Santa Lucia	<u>66,676</u>	<u>3,334</u>	<u>633</u>
Total	177,551	30,849	5,860

1. Based on Percent of deer habitat

The following computations indicate dependency and monetary values of BLM deer habitat.

Dependency of Deer Hunters on BLM Deer Range (C1)

$$C1 = \frac{\text{Acres of BLM Deer Range}}{\text{Acres of all Deer Range}}$$

$$C1 = \frac{189,240}{1,845,600} = .102 \text{ or } 10\% \text{ dependency of hunters on BLM deer range in the Diablo region.}$$

Dependency of Local Community on BLM Deer Range (C2)

$$C2 = C1 \times \frac{C3}{C4}$$

C3 = Income generated by local expenditures of non-local hunters,

= Local expenditures of non-local hunters x Income multiplier

Expenditures of \$10 per day x 5,860 days = \$58,600

Multiplier = 1.0 so

C3 = \$58,600

C4 = Total personal income

C4 = \$2,367,925,000

$$C2 = C1 (.102) \times \frac{C3 (\$58,600)}{C4 (\$2,367,925,000)}$$

C2 = .102 x .00002

C2 = .000002 or .0002% local Diablo region dependency on BLM deer habitat.

Total Monetary Value of BLM-Based Deer Hunting to Local Community (C1)

C1 = C3 x C4 x C5

C3 = Local expenditures of non-local deer hunters = # of non-local days x average daily expenditure

+

of out-of-state hunters x average daily expenditure

C3 = 5,860 x \$10 + (insignificant)

C3 = \$58,600

C4 = Proportion of BLM deer range to total deer range

$$C4 = \frac{189,240}{1,845,600} = .102$$

C5 = Income multiplier = 1.0

$$C1 = C3 (\$58,600) \times C4 (.102) \times C5 (1.0)$$

C1 = \$5,977 total monetary value of BLM based deer hunting in the Diablo region.

Unit Monetary Value of BLM-Based Deer Hunting by Non-Local Hunters in the Local Community (C2a)

$$C2a = C5 \times \text{average daily local expenditures}$$

$$C2a = 1 \times \$10 = \$10$$

Benchmark Projections:

<u>Present Situation</u>	<u>Total</u>	<u>BLM</u>
Production	N.A.	N.A.
Consumption (Hunter Days)	177,551	30,849
Needs	N.A.	N.A.
 <u>Projections to 1980</u>		
Consumption (Hunter Days)	229,321	39,833 ^{1/}
Needs	+	+ ^{2/}

1/ Based on same % as in 1970

2/ Actual need on demand will be greater than this. Estimated actual increase is 50%

Minerals

During 1968, an estimated 112.7 million in mineral values was produced from the Diablo statistical region. This amounts to 37% of the total mineral values produced in the district (Table 1).

TABLE 1

Mineral Production in Diablo Region 1968

(\$1,000's)

<u>County</u>	<u>Value</u>
Fresno	\$64,309
Monterey	36,286
San Benito	<u>12,081</u>
Total	\$112,676
District Total	\$300,658
% Diablo	37%

There are over 300,000 acres of public domain land in this region. One of the most important factors of this land is that it provides areas for prospecting and developing mineral deposits.

At the present time oil and gas produced through Federal leasing in the Diablo area amounted to \$917,500 in 1969. There are approximately 187,562 acres of public land under oil and gas

leases. The oil and gas production from these leases occur in major oil fields which are predominately privately owned.

Production from Federally leased oil and gas lands add to California's total production which is very important to the economy of the State as it provides a local source of supply for a large part of the energy requirements of a large and rapidly growing industry and population. The production, refining and distribution of oil and gas utilizes a very large capital investment. Oil producers pay large state and local taxes. More over, the large and growing petrochemical industry depends on the oil industry for its raw materials.

An enormous deposit of short-fibre asbestos, one of the largest in the world, is located in this region. It occurs in a 14 mile long by 4 mile wide mass of serpentine, 20 miles northwest of Coalinga in Fresno County. As much as 80% of this area is public domain land. At the present time there are three major companies active in this area: Atlas Corp., Coalinga Asbestos Co. and Union Carbide Nuclear Co.

Union Carbide has a processing plant in Kings City where it employs 60 men and has four employees at the mine area. The other two plants are located adjacent to the deposit and employ approximately 120 men.

The value of asbestos production from this area is in excess of twenty million dollars. The affect of this asbestos industry on the local and state economy is very significant. It represents the largest deposit of Group 7 Chrysotile asbestos fibers in the world. At the present time, the value of production is between 20 and 30 million dollars and is expected to increase.

Much of the fibre produced in the Diablo area is shipped outside the state. It is shipped to floor tile plants in the eastern, midwestern, and southern states and is exported to India, Australia, the Phillippines and other Pacific areas. Asbestos production is dependent upon the demand of the construction and building industry at the present time. Although the production of this material fluctuates with their variation of building activity, the general trend for consumption of this type of asbestos appears to be upward, especially as new uses for it are developed.

At the present time, dimension stone is being produced from Public Domain land in Monterey County. The stone is being quarried approximately ten miles west of San Ardo. The operation is being handled by a Duration of Production Mineral Material Sale Contract with the Bureau of Land Management. Approximately 250 tons per year of stone are produced resulting in payment to the United States Government of approximately \$500 per year. The stone is shipped mainly to the Bay Area and used as decorative stone.

Unless new markets are opened, the production probably will be maintained at the current rate.

There has been reported past production or known occurrences on Public Domain lands of manganese chromite, mercury, magnesite, diatomite, limestone, dolomite, phosphates, clay, gypsum, coal, bituminous sandstone and barite. There has been continuous minor production to date, of mercury from small mines and prospects on Public Domain land or land with minerals reserved to the U.S. Although at the present time there is little or no mineral production from some known mineral potential lands due to economic or techologic factors these areas should be considered mineral reserves in place. They are important economically as they formed a base for the mineral field to assure satisfaction for industry and security needs of the future.

Water



Water

Water Yield: The mean annual runoff from public domain in the Diablo statistical region is estimated to be in excess of 29,000 acre feet. This is highly variable, as there is a wide range of precipitation from year to year in the south coast ranges of California.

The scattered nature of the public domain in the area makes it necessary to divide the area into several drainage basins (Table 1). The San Joaquin may be divided into many smaller basins (Little Panoche, Panoche, Tumey, Arroyo Ciervo, Arroyo Hondo, and Cantua), but the sum total of mean yearly runoff from public domain into these creeks is only 926 acre feet. Panoche Creek accounts for most of this runoff. A gaging station near Stevenson was selected as the bottom of San Joaquin Basin for the purpose of this report. This station is located just above the confluence of the San Joaquin and Merced Rivers and therefore does not include the flow of the Merced. This is expedient, as there is a great deal of public domain in the Merced River Basin. This public domain is in the Southern Mother Lode Area and does not concern this report.

Gaging stations on the lower Salinas River do not give a correct index of that rivers flow. The river is famed as the largest underground river in the world.** To compound the problem, huge amounts of water

*There is a small amount of Southern Mother Lode public domain in the San Joaquin Basin above Stevenson, but runoff from this land is negligible.

**The Salinas River has been called "The Upside Down River".

TABLE 1

Drainage Basins and Water Amounts in the Diablo Resource Area

Drainage Basins	County	Total Flow in Acre Feet	Flow From Public Domain in Acre Feet	% Flow From Public Domain
San Benito River	San Benito	18,900	4,271**	22
San Joaquin River*	Fresno, Merced	550,200	926**	###
Salinas River	Monterey, San Benito	500,000***	18,707***	4
Carmel River	Monterey	53,860	1,886***	4
Del Puerto Creek	Stanislaus	5,590	396***	7
Coyote Creek	Santa Clara	47,490	2,195***	5
Los Gatos Creek	Fresno	2,100	706***	34
Jackalitos Creek	Fresno	##	#	--
Warthan Creek	Fresno	##	#	--
Zupato Chino Creek	Fresno	##	#	--
Total		1,184,510+	29,087+	2

* At Stevensen

** Computed by US Geological Survey

*** Estimated

No Estimate

Very low--no estimate

.1 of 1 percent

are taken for irrigation by wells. By considering the flow of tributaries and the flow of the river at Bradley, near where it starts its underground habit and considering probable underground additions to the flow, it is estimated that a mean yearly amount of 500,000 acre feet of water flow in the Salinas River at the mouth. Three percent of this water comes from public domain.

There is a great deal of public domain in the upper reaches of the San Benito River Basin. This accounts for the fact that 22% of the flow of the river originates on Bureau of Land Management (BLM) land.

Public domain contributes very small amounts of water to the Carmel River, Del Puerto Creek (lower San Joaquin Basin) and Coyote Creek (Santa Clara Creek Basin).

Los Gatos Creek is the only reliably measured westside stream which flows into Tulare Lake. This is because it is the only such stream with an appreciable flow. Its mean yearly flow is 2,100 acre feet, 33% of which comes from public domain. The median flow, 510 acre feet per year, is probably a better index of the flow of Los Gatos Creek, however. This is because extremely wet years such as 1968-1969 distort the mean out of proportion.

Water Quality: Magnesium is the most important natural pollutant in the streams of the Diablo Area, (Table 2). Agricultural chemicals,

sediment, both dissolved and suspended, are also present. It is notable, however, that no monetary values have yet been computed for the losses caused by these problems.

The streams flowing from the Diablo Mountains are usually high in magnesium because of the large amount of serpentine in this area (Table 2). The San Benito River, with a comparatively small drainage area has the most magnesium. The stream comes from the highly serpentized New Idria area. The Salinas and the San Joaquin get most of their magnesium from this area also. Asbestos mining operations are increasing the amount of magnesium in waters coming from the Diablo Mountains.

Agricultural chemicals; insecticides, fungicides, and herbicides, which are used extensively in the San Joaquin and Salinas Valleys are finding their way into the streams. Fortunately, these chemicals are not at a toxic level.

Sediment is greatest in the Salinas and San Benito Rivers (Table 2). It is not enough to cause serious pollution or siltation problems, especially since much of these rivers flow is underground.

Water Use: Almost 13 million acre feet of water were used for irrigation in 1960 in the Central California Counties of Santa Cruz, Monterey, San Benito, San Joaquin, Santa Clara, Stanislaus, Madera, Fresno, Kings*, Tulare*, and Kern*. The same region used more than 1/2 million

*Not in Diablo area

acre feet for urban and suburban use in 1960 (Table 3). This use has risen since then. Large numbers of people have moved in since then and more acreages have been placed under irrigation.

Most of this water originated in the Sierra Nevada Mountains. Other water was brought in from Northern California by the Delta Mendota Canal. The California Aquaduct, a considerably larger canal, is being completed.

Although primarily designed to transport water to the Los Angeles area, it will also supply large amounts of water to the central and southern San Joaquin Valleys. All of the water in this canal will originate in Northern California.

Benchmark Projections: The rapid growth of population in central California will continue. This means that cities such as Fresno, Stockton, Modesto and Salinas will expand into the surrounding agricultural land. Agriculture, in turn, will expand into peripheral areas that have not been farmed. Land already in production will be farmed more and fallowed less.

Hence, the demand for irrigation water will expand arithmetically, but the demand for urban and suburban water will expand geometrically. It is estimated that 17,000,000 acre feet of water will be used for irrigation in 1980, while 1 million acre feet will be used by cities and towns. Most of this water will come from the Sierra Nevada and Northern California, as local sources are not nearly adequate.

TABLE 2

of Streams on the Diablo Area in 1963

Magne- sium PPM	Potas- Bi Car- sium bonate		Sodium		Sulfate		Chloride		Fluo- Ni- ride trate		Sedi- ment		Specific con- ductivity Micromhos	Collection Date
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM			
Carmel River	2	113	15	32	14	.2	.7	180	7.9	286	May 7			
	2	130	11	33	7.3	.4	1.4	181	7.8	288	May 5			
		178	18	57	12	.3	1.2	288	8.4	433	May 5			
		686	132	53	152	.9	45	990	7.8	1,380	May 7			
		506	156	294	86	.2	.9	995	8.6	1,540	May 15			
		106	57	51	83	0	1.6	318	7.7	547	May 11			

TABLE 3

Water Use in Central California, 1960

Region	County	Irrigation Acre Feet	Urban & Suburban in acre feet
Central Coastal	San Benito, Santa Cruz Monterey, Santa Clara	660,000	10,000
San Joaquin	Fresno, Merced, Madera* Stanislaus, San Joaquin*	4,620,000	130,000
Tulare Lake	Fresno, Kings*, Tulare* Kern*	7,600,300	300,000
Total	-----	12,880,300	540,000

* Not in Diablo Area

Other Land Uses

Other Land Uses

In general, there are no public lands in the Diablo Resource Area suitable for agriculture, occupancy, urban expansion or industrial sites.

Public lands are in the more remote drier, hilly locations away from expanding urban areas. The entire resource area is rural in nature. Even in Monterey County which has a large urban population there is no shortage of private lands around the urban centers, which is suitable for expansion.

There are a few isolated sites in remote areas which could conceivably be used for occupancy but they are better suited to public recreational use for which there is presently a demand.

The rate of population growth within the resource area is a rate which permits proper planning and zoning in advance of urban needs.

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